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TRANSACTIONS

OF THE

State Medical Society

OF

ARKANSAS.

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TRANSACTIONS

OF THE

STATE MEDICAL SOCIETY

OF ARKANSAS.

LITTLE ROCK, 1887.

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OFFICERS OF THE SOCIETY, 1887-8.

President,	W. P. HART, M. D., Washington.
First Vice-President,	J. G. EBERLE, M. D., Fort Smith.
Second Vice-President,	J. R. DALE, M. D., Arkadelphia.
Third Vice-President,	J. W. COFFMAN, M. D., Black Rock.
Fourth Vice-President,	D. P. RUFF, M. D., Dover.
Secretary,	L. P. GIBSON, M. D., Little Rock.
Assistant Secretary,	B. HATCHETT, M. D., Fort Smith.
Treasurer,	A. L. BREYSACHER, M. D., Little Rock.
Librarian,	R. W. LINDSEY, M. D., Little Rock.

STANDING COMMITTEES, 1887-8.

ARRANGEMENTS.

L. L. SAUNDERS, Chairman,

W. W. BAILEY, A. DUNLAP,
J. G. EBERLE, B. HATCHETT,
J. M. KELLEAM, R. B. KING,
J. H. T. MAIN, J. D. SOUTHARD.

CREDENTIALS.

J. G. EBERLE, L. L. SAUNDERS, W. W. BAILEY.

JUDICIAL COUNCIL.

W. B. WELCH, D. A. LINTHICUM, P. O. HOOPER,
J. A. GIBRELL, JR., W. H. HAWKINS, T. W. HURLEY,
D. C. EWING, W. B. LAWRENCE, A. N. CARRIGAN.

SCIENTIFIC COMMUNICATIONS.

J. M. KELLEAM, Chairman,

J. D. SOUTHARD, J. T. BOOTH.

MEDICAL EDUCATION.

J. A. DIBRELL, SR., Chairman,

W. W. HIPOLITE.	I. FOLSOM,
J. C. MINOR.	A. MCCASKILL,
A. C. JORDAN,	R. H. HODGES,
A. R. HOWELL.	W. C. SPEARMAN.

MEDICAL LEGISLATION.

(Continued by resolution from last year.)

W. H. HAWKINS, Chairman,

D. A. LINTHICUM.	W. P. HART,
D. E. BYRD.	D. C. EWING.

PRACTICE OF MEDICINE.

ALBERT DUNLAP, Chairman,

J. A. STAMPS.	H. B. WILLIAMS,
J. S. SHIELEY.	H. N. HARDISTER.
T. W. BLACKBURN.	J. R. FLOYD.
J. F. SIMMONS.	W. H. HILL.

SURGERY.

GEO. F. HYNES, Chairman,

J. T. JELKS.	W. B. LAWRENCE,
J. A. DIBRELL, JR.,	E. BENTLEY,
J. C. CRENSHAW,	S. W. FRANKLIN,
T. W. HURLEY.	J. T. HAWKINS.

GYNÆCOLOGY.

T. W. HURLEY, Chairman,

L. R. STARK.	J. R. DALE.
E. CROSS.	A. J. VANCE.
R. M. DRUMMOND.	P. C. WEST,
GEO. MCALPINE.	D. J. PRATHER.

PUBLICATION.

L. P. GIBSON, *Ex-Officio* Chairman,

T. E. MCKELLI.	E. R. DIBRELL.

BOARD OF VISITORS TO MEDICAL DEPARTMENT OF THE ARKANSAS INDUSTRIAL UNIVERSITY.

W. W. HIPOLITE, Chairman,

J. M. KELLER, W. H. HAWKINS,
I. FOLSOM, W. B. LAWRENCE.

NECROLOGY.

EDWARD MEEK, Chairman.

J. W. HAYS, D. S. MILLS.

STATE MEDICINE.

H. H. TURNER, Chairman, Franklin county.

A. J. BREWER, Baxter county;
J. R. FLOYD, Benton county;
L. KIRBEY, Boone county;
J. F. HAWKINS, Columbia county;
J. H. KITCHENS, Craighead county;
J. C. WALLIS, Clark county;
C. A. STANFIELD, Cleveland county;
W. A. C. SAYLE, Conway county;
G. F. HYNES, Crawford county;
G. S. BROWN, Faulkner county;
J. F BLACKBURN, Franklin county;
J. H. GAINES, Garland county;
S. L. B'SHERS, Hempstead county;
W. B. BARNER, Howard county;
S. REAMY, Hot Spring county;
M. C. WEAVER, Independence county;
E. A. BAXTER, Izard county;
Z. OTTO, Jeffer on county;
THOS. STEPHENSON, Johnson county;
J. C. MINOR, Lawrence county;
D. S. DRAKE, Lee county;
L. A. SAGER, Little River county;
I. FOLSOM, Lonoke county;
C. M. TAYLOR, Lincoln county;
W. H. HAWKINS, Miller county;
J. D. JORDAN, Nevada county;
G. W. HUDSON, Ouachita county;
A. A. HORNER, Phillips county;
W. R. BAKER, Polk county;
C. L. KIRKSCEY, Pope county;
W. W. HIPOLITE, Prairie county;
J. A. DIBRELL, JR., Pulaski county;
A. G. HENDERSON, Randolph county;
W. J. MATTHEWS, St. Francis county;
J. W. ADAMS, Saline county;
J. G. EBERLE, Sebastian county;
W. N. YATES, Washington county;
A. C. JORDAN, White county.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

W. B. LAWRENCE, W. H. HAWKINS,
R. G. JENNINGS, T. E. MURRELL,
EDWARD CROSS, P. VANPATTEN,
D. C. EWING.

DELEGATES TO THE NINTH INTERNATIONAL MEDICAL CONGRESS.

EDWIN BENTLEY, W. W. HIPOLITE,
EDWARD CROSS, J. M. KELLER,
JAMES A. DIBRELL, JR., CLAIBOURNE WATKINS,
HUGH B. WILLIAMS.

LIST OF OFFICERS FROM THE ORGANIZATION OF THE SOCIETY.

PRESIDENTS.

A. N. CARRIGAN, M. D., 1877-8.
W. H. HAWKINS, M. D., 1885-6.
T. W. HURLEY, M. D., 1884-5.
J. M. KELLER, M. D., 1883-4.
J. H. SOUTHALL, M. D., 1882-3.
E. T. DALE, M. D., 1879-80.
J. A. DIBRELL, Sr., M. D., 1886-7.
A. A. HORNER, M. D., 1878-9.
R. G. JENNINGS, M. D., 1881-2.
W. M. LAWRENCE, M. D., 1880-1.
W. B. WELCH, M. D., 1875-6.

VICE-PRESIDENTS.

E. H. ALEXANDER, M. D., 1884-5.
J. F. BLACKBURN, M. D., 1883-4.
S. M. CARRIGAN, M. D., 1883-4.
J. B. CUMMINGS, M. D., 1879-80.
A. DUNLAP, M. D., 1875-6-'79-80.
D. C. EWING, M. D., 1881-2.
J. T. HAMILTON, M. D., 1879-80.
W. H. HAWKINS, M. D., 1878-9.
W. W. HIPOLITE, M. D., 1885-6.
G. W. HUDSON, M. D., 1883-4.
W. B. LAWRENCE, M. D., 1885-6.
J. J. MCALMONT, M. D., 1884-5.
G. B. MALONE, M. D., 1881-2.
J. P. MITCHELL, M. D , 1875-6.
Z. ORTO, M. D., 1882-3.
D. J. PRATHER, M. D., 1882-3.
W. A. C. SAYLE, M. D., 1880-1.
D. H. STAYTON, M. D., 1880-1.
H. H. TURNER, M. D., 1881-2-3-4.
J. E. BENNETT, M. D., 1880-1.
R. BRUNSON, M. D., 1875-6.
F. N. BURKE, M. D., 1886-7.
R. B. CHRISTIAN, M. D., 1880-1.
E. T. DALE, M. D., 1875-6.
J. A. DIBRELL, Sr., M. D., 1882-3.
ISAAC FOLSOM, M. D., 1878-9.
W. P. HART, M. D., 1884-5.
W. H. HEARD, M. D., 1881-2.
A. A. HORNER, M. D., 1877-8.
T. W. HURLEY, M. D., 1878-9.
W. M. LAWRENCE, M. D., 1879-80.
DRAKE MCDOWELL, M. D., 1877-8.
D. S. MILLS, M. D., 1883-4.
T. E. MURRELL, M. D., 1885-6.
T. J. POLLARD, M. D., 1877-8.
H. L. ROUTH, M. D., 1885-6.
J. S. SHIBLEY, M. D., 1878-9.
J. F. SIMMONS, M. D., 1886-7.
J. A. STINSON, M. D., 1877-8.
R. S. WALLIS, M. D., 1884-5.
C. WATKINS, M. D., 1886-7.
P. C. WEST, M. D., 1886-7.

SECRETARIES.

L. P. GIBSON, M. D., 1881 to 1888.
R. G. JENNINGS, M. D., 875 to 1881.

ASSISTANT SECRETARIES.

F. N. BURKE, M. D., 1885-6.
L. P. GIBSON, M. D., 1877 to 1881.
J. G. EBERLE, M. D., 1875-6-'84-5.
EDWARD MEEK, M. D., 1881 to '84-86-7.

TREASURER.

A. L. BREYSACHER, M. D., 1875 to 1887.

LIBRARIANS.

T. H. BATES, M. D., 1875-6.
T. E. MURRELL, M. D., 1877-8.
JOHN WATERS, M. D., 1880 to 1883.
J. H. LENOW, M. D., 1878 to 1880.
L. R. STARK, M. D., 1885 to 1887.

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TWELFTH ANNUAL MEETING

OF THE

STATE MEDICAL SOCIETY

OF ARKANSAS,

HELD AT LITTLE ROCK,

JUNE 1, 2, 3, 1887.

FIRST DAY—MORNING SESSION.

The Society met in the Senate Chamber.

The meeting was called to order at 11 o'clock by Dr. R. B. Christian, Chairman of the Committee of Arrangements, who introduced the President, Dr. James A. Dibrell, Sr., of Van Buren.

Prayer by Rev. A. B. Miller.

Dr. Christian delivered the following

ADDRESS OF WELCOME.

Gentlemen of the State Medical Society:

In the selection of Little Rock as your place of meeting this year, the medical profession of the city feel and fully appreciate the honor thus conferred, and the privilege which the occasion affords of extending to you our cordial greeting and welcome.

We do not propose to receive you as strangers in a strange place, but as friends, professional brothers and fellow-citizens, we would bid you a hearty welcome to this, the Capital City of our State, where you may enjoy the rights and privileges

in common with ourselves, and in whose growth and prosperity you may feel with us a common interest and pride.

We trust, therefore, that during your stay with us you will feel at home, that your visit will be both pleasant and profitable, and that you will have no cause whatever to regret your attendance upon the present meeting of our Society.

This, the Twelfth Annual Session of the State Medical Society, constitutes a period in its history which should awaken feelings of pride and furnish cause for congratulation on the part of its members and friends. During these twelve years of its existence the organization has grown strong and prosperous, until to-day it stands a fixed institution, the representative medical body of the State, with no discordant element to mar its peace and tranquility or to disturb the smooth surface of its onward progress. May we not then congratulate ourselves and rejoice in the work thus accomplished, feeling it is a work whose benefits are not to be appropriated to ourselves and the present alone, but which will be felt and appreciated in the future by those who are to come after and take our places.

As medical men and members of a great profession, we cannot estimate too highly the great and important benefits accruing to the profession, collectively and individually, from organization. It constitutes the great means by which the profession in all its interests is strengthened and advanced, and its sphere of usefulness widened and elevated. It is through organization that medical opinion and influence become recognized and appreciated, and by it medical thought and energy concentrated in the development and dissemination of medical knowledge. Through organization medical men become associated in interest and purpose, the results o individual experience and observation are brought together, and discussion and concentration and investigation of research, the hidden systems of medical science are revealed and its true principles nourished and strengthened.

As practitioners of medicine, a calling in which human life is dealt with, and involving, as it does, so much grave responsibility, we cannot afford to tread alone its mysterious and intricate paths; we cannot afford amidst the dangers and arduous difficulties by which we are surrounded, to be without that aid and counsel which is derived from professional intercourse and fellowship. If we would appropriate to ourselves the fruits and benefits, and enjoy the privileges resulting from medical organization, we cannot do so as honest men without contributing to its support. If we would be recipients we must also be contributors.

Let us hope then that the meetings of our State Society will continue to develop and grow in interest, and that their influence will be felt and appreciated by the medical profession in every part of the State, and that by a warm and earnest support on the part of its members, this organization will go on to the accomplishment of even greater good than has already been achieved, and under its influence may the interests of medicine in the State become strengthened and built up and professional character elevated and refined.

The Committee on Credentials reported the registration of the following delegates, permanent members and applicants for membership:

DELEGATES.

Benton County Medical Society—Drs. T. W. Hurley and J. T. Clegg.

Crawford County Medical Society—Dr. J. A. Dibrell, Sr.

Hempstead County Medical Society—Drs. A. N. Carrigan, W. P. Hart, A. McCaskill, J. A. Stamps and R. M. Wilson.

Independence County Medical Society—Drs. H. N. Hardister, R. H. Hodges, F. E. Jeffrey and W. B. Lawrence.

Jefferson County Medical Society—Dr. J. F. Simmons.

Johnson County Medical Society—Dr. Thomas Stephenson.

Lawrence County Medical Society—Drs. J. W. Coffman, J. C. Minor and W. J. Watkins.

Little Rock Medical Society—Drs. Edwin Bentley, J. A. Dibrell, Jr., D. A. Gray, R. W. Lindsey, T. E. Murrell and J. H. Southall.

Phillips County Medical Association—Drs. D. E. Byrd and George McAlpine.

Pope County Medical Society—Drs. R. M. Drummond, W. H. Hill, A. R. Howell and D. P. Ruff.

Sebastian County Medical Society—Drs. J. G. Eberle, B. Hatchett and J. D. Southard.

Washington County Medical Society—Dr. Thomas W. Blackburn.

PERMANENT MEMBERS.

Clark County—Dr. J. R. Dale.

Garland County—Drs. J. T. Jelks and J. M. Keller.

Lonoke County—Dr. Isaac Folsom.

Miller County—Dr. W. H. Hawkins.

Prairie County—Dr. W. W. Hipolite.

Pulaski County—Drs. A. L. Breysacher, R. B. Christian, E. Cross, L. P. Gibson, R. G. Jennings, J. H. Lenow, J. J. McAlmont, E. Meek, C. E. Nash, A. H. Scott, L. R. Stark, N. Wény and H. B. Williams.

APPLICANTS FOR MEMBERSHIP.

Benton County—Dr. J. R. Floyd.

Columbia County—Dr. J. F. Hawkins

Hempstead County—Drs. A. McCaskill and J. A. Stamps.

Independence County—Drs. H. N. Hardister and R. H. Hodges.

Lawrence County—Drs. J. W. Coffman, W. J. Hatcher and J. C. Minor.

Miller County—Dr. W. C. Spearman.

Pope County—Drs. R. M. Drummond, A. R. Howell and D. P. Ruff.

Pulaski County—Drs. J. C. Crenshaw and J. D. Holmes.

Sebastian County—Drs. B. Hatchett and J. D. Southard.

Washington County—Dr. T. W. Blackburn.

White County—Dr. A. C. Jordan.

The report was adopted, and a vote having been taken the applicants were elected members.

Roll call and reading the minutes were dispensed with.

Dr. Christian was called to the chair.

The President delivered the annual address, which was referred to the Publication Committee.

Recess.

FIRST DAY—AFTERNOON SESSION.

The Society was called to order by the President at 3 o'clock.

Dr. W. P. Hart, Chairman, read the report on "Practice of Medicine," which was referred to the Publication Committee with the thanks of the Society to the author.

Dr. J. J. McAlmont read a paper on the "Diagnosis of Rotheln."

Dr. Murrell read for Dr. A. J. Vance, who was absent, a paper on "Naso-Pharyngeal Catarrh."

Dr. W. J. Watkins read a paper on "Malignant Dysentery."

Dr. H. B. Williams read a paper on "The use of Hyoscine Hydrobromate."

Dr. J. A. Stamps read his paper on "The Condition of the Blood in Hæmoglobinuria." On motion, the thanks of the Society were voted the author.

Dr. C. E. Nash read a paper on "Medical and Scientific Literature."

Recess.

FIRST DAY—EVENING SESSION.

The Society met at 8 o'clock, the President in the chair.

Dr. McAlmont's paper on "Rotheln" was referred to the Publication Committee.

The evening was consumed in discussing the papers read during the afternoon session, as follows: "Naso-Pharyngeal Catarrh" and "Malignant Dysentery," after which they were referred to the Publication Committee.

The discussion of the paper on "Hæmoglobinuria" was deferred until Friday afternoon, to be considered with other papers on the same subject.

At 11 o'clock the Society adjourned.

SECOND DAY—MORNING SESSION.

The President called the Society to order at 9:30 o'clock.

The President appointed Drs. W. B. Lawrence, W. H. Hawkins, W. P. Hart, J. G. Eberle and D. E. Byrd to fill vacancies on the Judicial Council caused by the absence of Drs. W. B. Welch, D. A. Linthicum, A. A. Horner, Z. Orto and D. C. Ewing.

Dr. J. T. Jelks presented the application for membership of Dr. S. W. Franklin, and moved its reference to the Judicial Council. Carried.

Dr. W. W. Hipolite read the report of the Committee on Medical Education, which was referred to the Committee on Publication.

The Secretary read the report of the Committee on County Medical Societies, as follows:

LITTLE ROCK, June 1, 1887.

Mr. President:

In presenting the report of the Committee on County Medical Societies, I feel very much like the individual must have felt when he related that the mother died, the child died, but by heroic treatment he had saved the old man.

But one new Society has been organized, three are defunct since the last report, three are barely alive and sinking rapidly, while but ten really live, able-bodied, strong-minded, well-organized Societies have answered to roll call this time.

It is a painful truth that in some of the counties where the Societies are dying from inanition, there are from fifteen to twenty well qualified, regular physicians in the counties. There is no apparent reason for this bad showing. It seems that medical organization in this State, like the crops, don't hit every year. This is perhaps an off year. There appears to be a lack of a proper stimulus among the members of the profession. When a question of importance to the profession is agitated, there is an awakening for awhile, but it soon dies away. When the bill for the intended regulation of the practice of medicine became a law, there was a general awakening among the doctors, and organization was the watchword. But after the law was enacted and proved a failure, there was the same comatose condition into which most of the counties relapsed.

It is difficult to suggest a remedy. Undoubtedly the dull and unprofitable manner in which some societies have been and are conducted, tends to make members stay away or attend from a sense of duty rather than from a feeling that they will be interested and improved. It should be the study of every member, no less than the officers, how to make the society meetings interesting and the organization the ruling spirit in all medical matters in the counties.

As one of our distinguished members is to read a paper on the subject of Medical Organization I will not discuss the subject further, but will call your attention to the fact that some of the County Societies still have undergraduates in their membership in violation of a resolution adopted by this body several years ago. Two members of the State Society, residing in Pulaski County, are not members of the County Society, in violation of Article III, Constitution. You are respectfully requested to take some decisive action in these matters.

Again we have to report that the Code of Ethics, Constitution and uniform Constitution for County Societies have not been printed and distributed, for the same reason that it was not done last year, viz: insufficiency of funds to publish as large an edition as is thought to be necessary.

We are assured that by not using the funds already at our disposal for publishing a limited edition since our last meeting, a sufficient fund will be on hand to print a number that will be large enough to supply every regular physician in the State with a copy. Respectfully submitted,

L. P. GIBSON, M. D., *Chairman.*

The Publication Committee submitted the following report:

LITTLE ROCK, June 1, 1887.

Mr. President:

The Publication Committee respectfully report that the Minutes of the last annual session were published and distributed as usual. Four hundred copies were published, the cost of which is shown by the report of the Treasurer.

The issuing of the Minutes was purposely delayed so as to appear about the time active preparation should begin for this meeting. As was stated in an explanatory note in the Minutes, this was done in the hope that appearing at the time members generally seem to be least interested in the Society, they would serve as a reminder of what had been done, and incite in them an interest in the next meeting. Like using other new remedies, we have had to wait until this meeting to see if it had the desired effect.

Such of the scientific communications as were deemed suitable (except the very worthy reports on Surgery and Gynæcology) were sent to the *Journal of the American Medical Association*, and have from time to time appeared in that publication. Respectfully,

L. P. GIBSON, M. D., *Ex-Officio Chairman.*

The Secretary read his annual report, as follows:

SECRETARY'S REPORT.

LITTLE ROCK, June 1, 1887.

Mr. President:

In submitting my annual report as Secretary I have to state: The Minutes of the last meeting were prepared as usual and given to the Publication Committee. In accordance with your instructions and in compliance with the requirements of the Constitution the following names have been dropped from the roll for non-payment of dues, viz: Baker, G. G., Barnett, J. R., Blakemore, W. F., Bourland, O. M., Boyce, R. L., Brannon, E. O., Breedlove, J. W., Bragg, J. N., Brown, C. F., Brunson, R., Brunson, T. C., Butler, W. H., Cantrell, W. A., Clark, J. W., Clegg, J. T., Colburn, J. R., Cunningham, G. L., Davis, A., Donalson, B. R., Dorr, F. A., Easter, W. E., French, F. L., Garrison, J. B., Graham, A. J., Hale, J. G., Hamilton, E. L., Hamilton, J. T., Hammond, J. W., Harvey, T. A., Heard, W. H., Hughes, A. J., Jones, J. J., Sr., Martin, C. N., Mask, P. T., Massie, F. O., McCallum, J. A., McKennon, A. M., McKenzie, A. H., Meek, J. W., Milner, C. D., Owen, Henry, Pearson, M. L., Pinson, J. W., Pinson, T. M., Scarborough, J. G., Stayton, D. H., Thomas, P. E., Visart, E., Walker, W. S., Waters, John, Watson, R. P., Williams, D. S., Wood, H. D.—Total, 58. Which subtracted from the membership before last meeting after adding the nine new members then admitted leaves the membership 158. This is a considerable weeding out, but it leaves the standing crop in a strong, vigorous, healthy, growing condition, with every prospect of bringing forth better fruit than ever. For the first time since I have had the honor to be your Secretary I am going to make a complaint. I have been full of it at nearly every meeting, but by careful treatment and free use of soothing applications the fever has been kept in abeyance. The complaint I have to make is that when official communications are sent to the members of this Society with a request for a reply they are not noticed or neglected, *as a rule.* As an example: I sent with each circular (about 400) a postal card for each member to reply on, and the utmost care was taken to make it so simple that one word and the name was all that was necessary to be written, the cards being already directed. In reply to the

400 cards first sent out I had the gratification of receiving 27, most of which were from parties outside the State from whom no reply was expected. For instance, Drs. N. S. Davis, R. J. Dungleson, Deering J. Roberts and several others who are as busy as any members of this Society, found time to reply very promptly. Of course I appreciate the fact that this silence is not wilful, but it does seem that the requests are so easily complied with that a failure should be the exception. If the members will try to keep it in their minds that each and every one of them is as individually interested and responsible for the success of the Society and every meeting of it as are the officers they will be a little more careful to reply to communications sent them, as without the information it is impossible to make the necessary arrangements, obtain reduced fares, etc. Respectfully,

L. P. GIBSON, M. D., *Secretary.*

The Treasurer submitted the following annual report:

TREASURER'S REPORT.

LITTLE ROCK, June 1, 1887.

Mr. President:

The following is a statement of receipts and disbursements as your Treasurer, from April 27, 1886, to June 1, 1887.

STATEMENT.

A. L. Breysacher, M. D., Treasurer,
In acc't with
The State Medical Society of Arkansas.

1886.	Dr.		
Ap'l 27.	To balance on hand	$164 80	
	To cash received from members since then	315 00	
		$479 80	
	Cr.		
Ap'l 30.	By cash paid voucher No. 1		$ 5 00
Ap'l 30.	By cash paid voucher No. 2		2 00
May 1.	By cash paid voucher No. 3		3 90
May 1.	By cash paid voucher No. 4		100 00
June 1.	By cash paid voucher No. 5		7 50
May 17.	By cash paid voucher No. 6		37 00
May 1.	By cash paid voucher No. 7		18 00
Dec. 22.	By cash paid voucher No. 8		5 00
1887.			
M'ch 4	By cash paid voucher No. 9		122 85
Feb'y 11.	By cash paid voucher No. 10		10 00
		$479 80	$311 25
June 1, 1887.	To balance on hand		$168 55

The vouchers are herewith transmitted.

Respectfully, A. L. BREYSACHER, M. D., *Treasurer.*

On motion of Dr. Jennings the report of the Treasurer was referred to a special auditing committee. The President appointed as the committee Drs. Jennings, Southall and Nash.

The Judicial Council presented the following report on the application of Dr. S. W. Franklin:

WHEREAS, Dr. S. W. Franklin, of Hot Springs, Arkansas, has disclaimed all intention of violating the code of medical ethics of the Society, and has made application to be reinstated to membership in the same. Therefore, be it

Resolved, That the said Dr. S. W. Franklin is hereby restored to membership in the State Medical Society of Arkansas.

P. O. HOOPER, M. D., *Chairman.*

W. B. LAWRENCE, M. D., *Secretary.*

Little Rock, June 2, 1887.

Dr. Keller moved that the State officials and the public generally be invited to attend the meetings of the Society. Carried.

Dr. P. O. Hooper, Chairman of the delegation to the American Medical Association, made a verbal report.

The Committee on Medical Legislation made their report.

The report was adopted and the Committee continued.

Dr. P. O. Hooper, Superintendent, invited the members of the Society to visit the State Lunatic Asylum. The invitation was accepted and 2 o'clock, Friday afternoon, set as the time.

The Special Auditing Committee reported as follows:

To the State Medical Society:

We, your committee, appointed to audit the accounts of the Treasurer, would respectfully report that we have discharged the duty assigned us and find that the vouchers and accounts are correct as presented.

R. G. JENNINGS, M. D.,
C. E. NASH, M. D.,
J. H. SOUTHALL, M. D.,
Committee.

Dr. Clegg read the following, which was referred to the Judicial Council:

"A WONDERFUL SURGICAL OPERATION."

"Yesterday a *Gazette* reporter was shown by Sayle & Ashby an ovarian tumor, which weighed thirty pounds when removed, the result of a surgical operation by Dr. E. Cross. It has been eight days since the operation was made and the patient is improving nicely, and at the end of two weeks will be able to walk

around. The lady upon whom the operation was performed is a resident of this city, and the mother of nine children. These operations are performed frequently by Dr. Cross, who seems to be very successful in this wonderful branch of surgery."

The following resolution, offered by Dr. Hurley, was adopted:

Resolved, That the Secretary be instructed to drop from the roll those members of this Society residing in counties where there are Societies and who do not belong to the same.

Dr. A. N. Carrigan read a paper on Medical Organization. The thanks of the Society were voted to Dr. Carrigan and the paper was referred for publication.

Recess.

SECOND DAY—AFTERNOON SESSION.

The Society was called to order at 2:30 o'clock by the President.

The Secretary read a communication from a Committee of the Arkansas Association of Pharmacists, stating they had been appointed to wait upon the State Medical Society and request its aid in a matter of much importance, not only to the Medical and Pharmaceutical professions, but to the people of the State of Arkansas. Four o'clock was the time appointed to meet the Committee.

Dr. J. T. Jelks, chairman, read the report on Surgery. Dr. L. R. Stark, chairman, read the report on Gynæcology. Both reports were referred to the Publication Committee.

Dr. W. H. Hawkins read a paper on "Ulcers."

Dr. B. Hatchett read a paper on "Hæmorrhoids."

Dr. R. B. Christian said there were a number of members of the Arkansas Association of Pharmacists in the hall and moved they be invited to sit with the Society. Carried.

Dr. J. B. Bond, from the Committee of Pharmacists, gave a statement of the work accomplished by the Association and outlined the future needs of the profession of Pharmacists. He asked the co-operation of the State Medical Society in obtaining the passage of necessary laws to regulate the prac-

tice of Pharmacy in the cities and incorporated towns in Arkansas.

The following resolution was adopted:

Resolved, That the State Medical Society of Arkansas pledges its earnest support to the Arkansas Association of Pharmacists in its efforts to have proper laws passed governing pharmacists in this State.

Dr. J. A. Dibrell, Jr., read for Dr. Geo. B. Hynes, who was absent, a paper entitled "Toleration of a Foreign Body (breech pin of an old shot-gun) imbedded in the Bony Structures of the Face for twenty-one months, with successful removal."

The thanks of the Society were voted Dr. Hynes for his paper, and the specimen sent to illustrate it.

Dr. J. A. Dibrell, Jr., read a "Report of two cases of Traumatic Tetanus."

Dr. E. Cross read a "Report of five cases of Pelvic Abscess."

Dr. W. B. Lawrence read a "Report of two cases of Compound Fracture of both bones of the leg."

Recess.

SECOND DAY—EVENING SESSION.

The Society met at 8:30 o'clock, the President in the chair.

Dr. A. C. Jordan read a paper on "Acute Bright's Disease in a child four years old." Referred to Publication Committee.

The evening was consumed in discussing the papers that were read during the afternoon session, viz: "Ulcers," "Hæmorrhoids," "Compound Fracture of Both Bones of the Leg," and "Traumatic Tetanus."

The above papers were referred to the Publication Committee. Adjourned.

THIRD DAY—MORNING SESSION.

The Society was called to order at 9:30 o'clock by the President.

The Secretary read the names of the Nominating Committee, as follows: Drs. J. T. Clegg, Benton county; J. A. Dibrell, Sr., Crawford county; A. N. Carrigan, Hempstead

county; F. E. Jeffrey, Independence county; J. F. Simmons, Jefferson county; Thos. Stephenson, Johnson county; W. J. Watkins, Lawrence county; E. Bentley, Pulaski county; Geo. McAlpine, Phillips county; W. H. Hill, Pope county; B. Hatchett, Sebastian county; T. W. Blackburn, Washington county.

The Judicial Council reported as follows:

Respecting the subject matter of certain publications in the *Arkansas Democrat* of May 3d, and also *The Gazette* of May 24th, wherein Dr. E. Cross seems to figure conspicuously as the operator in the removal of an ovarian tumor, and the attention of the laity having been called to the extra skill of the operator, the Council declares all such publications as flagrant violations of the Code of Ethics; but, in this particular instance, Dr. Cross, having been called before the Council and positively denying any previous knowledge of or connivance at the publication referred to, is hereby exonerated. W. P. HART, M. D., *Chairman.*

W. B. LAWRENCE, M. D., *Secretary.*

The Secretary read a communication from the Chairman of the Finance Committee of the Ninth International Congress, asking for contributions to the funds of the Congress. The Society contributed fifty dollars.

The Board of Visitors to the Medical Department of the Arkansas Industrial University reported as follows:

Mr. President:

In behalf of the Board of Visitors appointed by the State Medical Society, at its last annual meeting, we have the honor to submit the following report:

The committee to whom was assigned the duty of visiting the Medical Department of our State University, and of witnessing the examination of the candidates for graduation, have performed the duty assigned them. We are prepared to report the present condition of this Department as prosperous, as much so as can be reasonably expected; and the improvement from year to year as satisfactory—with a fair promise of increasing future usefulness.

As stated in a former report, "this institution was called into existence some years ago by the united efforts of leading physicians and surgeons for the purpose of supplying the people with educated physicians and surgeons. It has from the first adopted the advanced or graded system pursued in several of the leading medical colleges of this country. We consider it well worthy the hearty support of the profession, and the physicians of this State owe it to themselves, to their pupils, and to the people at large, to do all in their power to sustain it. We congratulate the faculty on the present excellent condition in which we find it. The young men of our State are now afforded facilities for the study of medicine and its collateral branches without the necessity of going abroad for that purpose."

The attendance at this institution during the last collegiate year has been larger than at any time since its organization; and there is no reason to doubt that this will increase as its advantages become better appreciated. The number of students enrolled was sixty-one, and of this number fifteen were successful candidates for graduation. This does not include Andrew J. Smith, of Clarksville, a promising young member of the graduating class, who died on the day of the closing exercises. Owing to his illness he was unable to be with his class during examination.

We were present during the examinations and were afforded good opportunities for observing the methods of instruction pursued and the proficiency of the students. The examinations embraced a wide range, covering all the branches taught in this Department of the University. They were conducted with thoroughness and passed off quite satisfactorily, showing that the candidates had received systematic instruction, were well versed in the various branches taught, and that they had well-defined views.

The committee is well satisfied with the manner in which the successful applicants acquitted themselves, and believe that those to whom diplomas were awarded were worthy of them, and are entitled to the respect and fellowship of the members of the profession into which they are entering.

W. W. HIPOLITE, M. D.,
Chairman of Committee.
W. B. LAWRENCE, M. D.
I. FOLSOM, M. D.
J. M. KELLER, M. D.
W. H. HAWKINS, M. D.

Dr. T. W. Hurley, chairman, read the report of the Committee on State Medicine, which was referred to the Committee on Publication.

Dr. W. P. Hart read his paper on "Malarial Hæmaturia," which, after discussion, was referred for publication, and the thanks of the Society were voted the author.

The Secretary was voted an honorarium of one hundred dollars.

Dr. Hurley introduced the following, which was adopted:

WHEREAS, The failure to publish the reports of standing committees and scientific communications as read in our annual meetings has proven detrimental to the interest of the State Medical Society of Arkansas; and

WHEREAS, The failure of the Secretary to publish the proceedings of 1886 until 1887, failed to have the effect anticipated by him, which was that of stimulating the chairmen of the standing committees of the Society to a new diligence in the discharge of their duties; therefore, be it

Resolved, That the Secretary, who is ex-officio chairman of the Committee on Publication, be instructed to publish the reports of the standing committees, togethe

with such scientific communications and reports of cases as they may think proper, and that in the event the Secretary does not get the Proceedings out at an earlier date, he be instructed to notify by circular letter the chairmen of the standing committees of their appointment, together with their co-committeemen.

The Secretary stated that this was the *first* meeting since the organization of the Society where there was a report from *every* committee.

Dr. Jennings read a statement with respect to the Rush Monument Association, and asked the members to contribute to the fund.

Recess.

THIRD DAY—EVENING SESSION.

The President called the Society to order at 8 o'clock.

The Nominating Committee submitted the following report:

Mr. President:

Your Committee on Nominations beg leave to report the election of the following officers for the ensuing year:

President - W. P. Hart, M. D., Washington.
First Vice-President—J. G. Eberle, M. D., Fort Smith.
Second Vice-President—J. R. Dale, M. D., Arkadelphia.
Third Vice-President—J. W. Coffman, M. D., Black Rock.
Fourth Vice-President—D. P. Ruff, M. D., Dover.
Secretary—L. P. Gibson, M. D., Little Rock.
Assistant Secretary—B. Hatchett, M. D., Fort Smith.
Treasurer—A L. Breysacher, M. D., Little Rock.
Librarian—R. W. Lindsey, M. D., Little Rock.
Next place of meeting—Little Rock or Fort Smith.

EDWIN BENTLEY, M. D., *Chairman.*

B. HATCHETT, M. D., *Secretary.*

Little Rock and Fort Smith were nominated for the next place of meeting, and Fort Smith was finally selected.

The entire programme having been finished, the President appointed Drs. Hurley and Bentley to escort Dr. W. P. Hart, the President-elect, to the chair.

After being introduced by the retiring President, Dr. Dibrell, Sr., the President-elect, in assuming the chair, thanked the Society for the honor conferred upon him.

The Society adjourned to meet at Fort Smith next year, the time to be selected by the Secretary.

L. P. GIBSON, M. D., *Secretary.*

ADDRESS OF THE PRESIDENT,

REPORTS OF STANDING COMMITTEES,

AND

SCIENTIFIC COMMUNICATIONS.

ANNUAL ADDRESS OF THE PRESIDENT.

JAMES A. DIBRELL, SR., M. D.,
VAN BUREN.

Gentlemen of the State Medical Society:

I greet you. Another year has been numbered with the past, and again have we met to devise the best ways and means to cure, modify or alleviate the diseases to which mortals are liable. This is our noble calling and it is a nobility which exceeds all others in its majesty, glory and usefulness, except that other calling which proceeds from the Master above; the one heals physical and mental disabilities, the other teaches us how to live and how to die. In regard to the former—when we look around us and observe what great good our State eleemosynary institutions are doing, had we spiritual discernment we might see angels of mercy hovering over each with pitying eye, rejoicing that man is likewise merciful. We may well be proud of them—our asylums for the insane, for the blind and for the deaf-mute. We look with peculiar pride upon those vast structures, erected for the alleviation of the ills of suffering humanity. Although these institutions are of comparatively recent erection, the officers are fully abreast of like institutions in the country in each specialty, in medical erudition, in intellectual designs, methods and successful treatment; and last, but by no means the least, would I refer with great personal pride and commendation to our Medical Department of the Arkansas Industrial University. Here principles are taught as perfectly as in the best medical colleges of the land, and whilst the clinics are not as extensive as in some of the Eastern colleges, yet they are largely increasing in extent and interest, and sufficient to afford a large amount of valuable instruction. If principles are well learned successful practice will follow. Principles are the great matter to learn. Had your speaker a controlling influence over each medical student in the State, he would advise him to attend the Arkansas Industrial University Medical College, graduate there, and, if he chose, go elsewhere to pick up eclat.

As addresses of this kind are largely the reprints of other men's thoughts and experience put into such form as may be more intelligently photographed on other men's minds, I assume the privileges indulgently granted to others and use others' statistical labors and co-elaborate their studies. A hundred years have produced many changes in the relative position of physicians to their patients and peoples generally. Some have said that they of the olden time derived more of their knowledge from personal observation than from books, a great mistake certainly. Whilst a vast amount of valuable information is derived from personal observation, he who studies the experience and practice of great authors has a manifold advantage. Almost every one of the great medical lights of the last two centuries were graduates of the most renowned institutions of learning of England, France, Germany and of other countries, who produced the grandest and profoundest

thinkers of the world, and so great was their learning that they were looked up to and venerated by all learned people as next to divine.

To say that a man was classically educated for his profession a century ago, was to award all commendation, honor and praise. True, there were grand observers—many were distinguished writers and their profound medical teaching has descended to these modern generations with all the accretions of former knowledge, down through the centuries, and established not only sure foundations for modern investigators to build on, but delivered to us the almost finished superstructures of scientific medicine. Anatomy was nearly a fixed science centuries ago, and we of modern times have added comparatively little to it. We think we are great discoverers and not a few are great workers in the hives of medical lore. In describing the old, I would not deduct one iota from the magnificent attainments of the new.

What amazing wonders have not modern scientific investigations accomplished? What a grand display of dazzling brilliants have not been dug up from the hitherto dark, unfathomed recesses of nature, where Science sat gloomy and enshrouded in her lonely solitude? What a blazing light is chemistry! Old things are done away and the radiant new sheds its lustre over the world, bringing grand results from worlds of microscopic observations, teeming with interest and benefit to mankind. True pathology follows in the wake of anatomic histology, and physiology determines with accuracy the therapeusis of medical agents in their different modes of actions on the different tissues. The study of the physiological effects of medicine is one of the great discoveries of the day. Aye, and surgery, now a science! What shall I say of its achievements? It has shed a new lustre on the medical world. Surgical diseases which a quarter century ago were hopelessly incurable are now cured; organs which were thought to be mortal to handle or even touch are now through laparotomy taken in the hand and manipulated as familiar things, operated on and returned into the various cavities and cured. Almost past realization are the triumphs of surgery. "What has not modern medicine accompl shed? It has in some countries, notably in England, increased human longevity nearly five per cent. Thus the time is not far distant when man shall live to the period assigned by the Creator, or until the organisms wear out and fail by long work. The same spirit which led medical men to sacrifice their lives in services to the poor, has led them to study enthusiastically and publish the minutes of their study to the world in the interests of humanity. Thus they have traced various forms of zymotic disease to sewer gas, and the patent office is filled with the inventions of sanitary engineers for the purpose of preventing the escape of gas from sewer pipes into dwellings. They have found typhoid fever in the cleanest water, and now sanitary police are causing old wells, sources of infection, to be filled up and millions of dollars are spent to secure an abundant supply of pure water. It was observed that the schools were turning out boys and girls affected with various diseases, and with a lack of physical and mental force, and they discovered the origin of these affections in educational over-pressure, bad air, crowding and contact with disease; and there followed compulsory vaccination, improved ventila-

tion, changes in the hours of study and methods of instruction, and the enforcement of bodily exercise when required. To them are due the improved quarantine regulations and the many precautions which have checked and abolished epidemics. So one might go on indefinitely, mentioning the ways which sanitary science has come to the people by improving their condition and protecting them from disease." In this connection I would cite you to the late epidemic of variola in Canada. The authorities failed in compelling the French Canadians to be vaccinated. Nearly three thousand died of the disease. All the other residents in Montreal were vaccinated. How many of them died? Less than sixty, and that because the operation of vaccination was imperfectly performed. The above is but a meagre epitome of the benefits wrought by the medical profession, but Hygeia looks on with approving placidity, as much as to say, well done, thou good and faithful benefactors of humanity.

What an illustrious medical ancestry we have! With what pride can we retrospect the centuries from the man of Cos down to the present time. How many stars of the first magnitude have shone and left their light and learning as valuable legacies to generations to succeed them, and these latter to other generations, with all their accumulated erudition and experience to make up the grand excellence of the most exalted profession in all the earth. Is it not extraordinary that, after all, there should be medical cranks, who switch off into medical heresies and endeavor, by false reasoning, to evolve ignis fatuus and make their very perversions shine as newly discovered truths. They have been very numerous for ages, but are becoming fewer, and paling before the truths of scientific investigation. Some of these heresies have indeed great antiquity, as far back as Pope Gregory the Great, who in one of his works writes thus: "*Mos medicinæ est ut aliquando similia similibus, aliquando contraria contrariis curet. Nam sæpe calida calidis, frigida frigidis, sæpe autem frigida calidis, calida, frigidis sanare consuevit.*" From the above category almost any exclusive system of practice can be evolved, the irregular and miscellaneous, including the defunct Thompsonian or botanic, which seems to be, even in its dying throes, the parent of other pernicious systems of errors.

In a number of medical schools in the United States, as varied, extensive and perfect medical education can be obtained as in the best European colleges; the means of instruction are as ample and the clinics as large and satisfactory. The teachers are as profound in their learning and as successful in imparting instruction as they are superior in their demonstrations. The day is not far distant when our best medical schools will attract students from Europe as the European schools have hitherto attracted medical students from America. The star of empire is indeed toward America, and may it be an empire of reason, tolerance, justice and grandeur.

Now that I have endeavored to applaud to the very echo the meritorious works of the profession, duty compels me to take another view of things not so pleasant to contemplate.

Among the large number of medical colleges in the United States there are some, I am sorry to say, whose very existence depends upon the number of grad-

uates they send out from their walls, advocates for cheap schools, short sessions with easy requirements and certain graduation, and many students attend such schools. Is there a high order of education really required? No, verily, much is demanded but little required. All that is really necessary is the money that will take them through. True, they insist that the applicant for medical honors shall possess a good English education, and, perhaps, a thesis at the end so ungrammatical that an expert could hardly decipher its subject matter if indeed it had any; must have studied three years, have a good moral character—this is fiction and farce. They imitate the best institutions to make their deceptions more inviting. But who ever heard of one being rejected on account of bad moral character? What a company of saints they must be. Now, it is a notorious fact that such inducements are thrown out broadcast over the land with the most unblushing effrontery by such medical schools, that they even allure some who would seek a good professional education elsewhere. They make a grand display of dissecting rooms, pictured in attractive style in their announcements; tables exhibited with a cadaver on each, some in progress of disintegration—demonstrator with scalpel in hand looking ever so wisely, and the students appearing dumbfounded as they seem to think how one small head can carry all he knew. Graduates of such institutions, as a general thing, cannot only not read their diplomas, but know not the etymology of the simplest medical terms. There are many doctors made of very poor material. The country has been deprived of many a fine artisan, many an excellent mechanic, many a grand agriculturist, the main stays and sinews of the land, by trying to make doctors of them. Who has not observed this? This ought not to be so. It seems the general custom in many parts that as soon as a boy acquires the merest rudiments of a plain English education, he must leave the fields of paternal usefulness, study one of the learned professions, especially medicine. Such youths surely think that the profession is easily mastered and the labor attending its future light and easy. In this, as in many other things, they will be grieviously mistaken. But, "where ignorance is bliss 'twere folly to be wise."

As there has been in the wonderfully rapid growth of the republic such a continued and exuberant outcropping of everything, civil, military, and mechanical and literary, and especially in the great west, possibly some excuse may be found for indifferent medical education, and that there was not time amid the popular ferment to give a sufficient length of time to preparatory education may be received as a toleration. But now the condition of things has changed. There is no longer any excuse for ignorance as the land is full of excellent schools, universities and colleges, and any youth of normal capacities, who is thirsting for an education, can by industry and exertion obtain it, and fit himself for the studies of either of the learned professions.

Statisticians have calculated that if the medical colleges in the United States continue to send out as many graduates as at present, it will not be a quarter century until there will be a doctor to every one hundred inhabitants. To speak in a business-like way, the supply will vastly exceed the demand. A writer in the *Weekly Medical Review* calculates the annual increase of population in the United States

at 2½ per cent., whilst the increase of doctors is 6 per cent. Under these conditions, should the estimates be correct, ethics will soon be disregarded and competition become degrading in the pursuit of unhallowed greed. A few years ago there was believed to be in Europe one physician to 3800 inhabitants, whilst in the United States there was one to every 500. The proportion in this country will be rapidly increased when we consider the armies of doctors graduated every year. Some may say that we have a vast area of country to be populated; true, but a very large proportion is burning, arid and rainless, and if ever it should be peopled, some wonderful perturbation of nature must take place before it can make water and verdure from burning sands. Others may say there is room at the top, and so it might be, but men are not angels as they climb up and down the rounds of the ladder, and frequently the stalwart and brassy will reach the top when the more deserving and modest will be on the lower rounds or kicked off altogether in the scuffle for preferment.

As legislation does not and should not alone provide for the present, but also for the welfare of men in the far-reaching future, so should we as a profession look to the possibilities and contingencies of the future, that we may by our forethought contribute to the health, longevity and dignity of our race. A distinguished man said, we have but one way of judging of the future, and that is by the past, and in thus judging of the future, we know that we shall not be wanting in any of the elements that shall contribute to place the people of the earth on a higher plane and make them more godlike in their development.

We will now for a few minutes discuss what I, as well as others of the same way of thinking, propose as remedies for some things mentioned above, which from the very nature of their existing condition require examination and review; and first, the kind of necessary education preparatory to the student's entering a physician's office for the study of medicine. I hold this to be of the very greatest importance, a *sine qua non*, that the physician with whom he proposes to study should institute a rigid examination, and ascertain if he has the necessary learning and qualifications to entitle him to such a position. The neglect of such duty has in the past been mainly the source and origin of poor medical education. Now, if a thorough preparatory education was required at the office, there would be less trouble with the colleges, and better classes and fewer graduates would be the result, and the profession exalted to a yet higher sphere of usefulness and dignity. Then the colleges should likewise prescribe a positive education that should better fit the student to study intelligently. All praise to them who have already done so: and not a few have adopted the higher standard. I would not say but that many men have made distinguished physicians who never had the advantages of a classical education, and many men may do so again, but I do say emphatically that a good classical and scientific course of study greatly conduces to the thoroughness and efficiency of their work. The want of it is a misfortune.

The technics of our profession are nearly all derivatives of Latin and Greek roots. Much as some may deplore this fact, it is the inevitable and exists. The Latin was almost exhausted in deriving therefrom immutable derivatives, and of late years

the derivatives from the Greek have been thousands to meet the demands of ever advancing science.

"A liberal education is not information merely on certain subjects of scientific research, but also and chiefly control of the faculties and vigorous use of them for attainment of worthy ideals. It cultivates habits of observation, discrimination, proper inference, rapid continuous thought and acquaintance with scientific method." What consciousness of superiority the classically educated student has when he instantly recognizes the meaning of words as he rapidly evolves them from their roots, whilst the student who is less fortunate plods over his dictionary day and night in the hopeless endeavor of obtaining therefrom the meaning of words by sheer memory, with no knowledge of the beauty and force of their expression. Then I should recommend that the office examination should require that each applicant should possess a sufficient knowledge of Greek and Latin etymology to engender rapid, intelligent and radical thought. But not only this, but a fair knowledge of mathematics, chemistry and philosophy. Now, we are all aware that in such reformation it will take much time to accomplish the desired ends. If we never begin we will never succeed, and better late than never, and if we do succeed in even a quarter century the profession will be ennobled and the people largely benefited.

REPORT OF COMMITTEE ON THE PRACTICE OF MEDICINE.

W. P. HART, M. D., CHAIRMAN,
WASHINGTON.

The history of medicine may very properly be divided into three periods or cycles. First—The period in which the symptoms and manifestations of disease were observed and an attempt at treatment made without any reference to, or knowledge of, their pathological effects or the causes producing them. And the chief remedial agencies employed were efforts directed to the credulity and superstition of the patient so as to impress him profoundly with the idea that his sufferings and afflictions were the visitations and chastenings of the Deity, and could be relieved only by Divine interposition, very much as the prayer and faith-healers of the present day. Second—The period in which the effects and lesions of disease were studied, and pathological investigations were prosecuted with diligence, and far greater success than ever before. Also in this period a materia medica was constructed and the pharmaceutic and therapeutic properties of medicines were studied and investigated. Third—This is the period of the present time, when the causes of disease are being sought for and determined. Not being content with observing and noting the symptoms and pathological effects of disease it is but natural that the restless and inquiring mind should demand to know and understand the causes that produce those effects and symptoms. This is a field of inquiry in which investigation has barely passed the outer boundary, but when it shall have been thoroughly explored by the hosts of busy scientific workers engaged in its exploration, then indeed will medicine rightly claim and be entitled to a place among the definite sciences. When the day dawns that we not only observe the symptoms and effects of disease, but know and understand the causes that produce them, and can confidently say "thus far but no farther," then indeed will ours be a noble calling and the upright and conscientious doctor a being, in reality, but a little lower than the angels. But until this happy period arrives—and we are encouraged to hope and believe it will not be far distant in the future, at least as to a great many diseases—we must content ourselves with medicine as we have it to-day, in its imperfect state, until new discoveries and developments shall magnify it into an exact science. During the last decade numerous discoveries of the causes of disease have been made The microscope has been called into requisition and the arena for the study of micro-organisms, as etiological factors in the production of disease, has been entered. Pasteur and ferments, Lister and antiseptics, and Koch and bacilli have been the pioneers and prominent workers in these departments.

The exact and certain causes of several diseases, which hitherto were not known, it is claimed have been discovered and indubitably determined; while there is a promise that the causes of numerous other diseases will, in the near future, be detected and understood. Pasteur's ferments have worked an epoch in the art of brewing.

Lister's antiseptic methods have wrought a revolution in surgery, while Koch's bacillus-tuberculosis has thrown floods of light upon that dread malady, consumption. And his discovery is believed by many to have definitely settled and fixed its etiology, but without the therapeutic results and benefits that it was hoped would accompany and follow a better etiological knowledge of the disease, while there are others who still doubt and disbelieve the causative relation of the tubercle-bacillus. Dr. Beverly Robinson, of Bellevue, a short time since made this remark: "But recently the chorus of the supporters of Koch was somewhat after this fashion: What is consumption? The bacillus What is the bacillus? Consumption. But what causes consumption? Why, the bacillus. But what causes the bacillus? Consumption. And we may ask, in the words of Professor Loomis, whether they (the micr. bes) are the cause or the scavengers of disease." From the above quotation it would appear that there is not unanimity of opinion or satisfying confidence in the microbic nature of the disease. Again, the hereditary nature of consumption, which has been accepted as a settled fact for long ages past, is being called in question. Recently, in the New York State Medical Association, in discussing a paper entitled "Is tubercular consumption ever inherited?" Dr. H. D. Didama said: "As a rule, with but few exceptions, and possibly with not a single exception, the unborn or newly born child of a consumptive parent is entirely free of tubercular disease, taint or tendency That tubercles themselves are not found in the lungs of the fœtus or the very young babe, is the latest testimony of the best observers. That the newly born babe of a consumptive mother, when instantly removed from unhealthy surroundings and influences, and shielded from bacillic affection, is likely to remain free from tuberculous disease, is also a well established fact. That the vast majority of those who die of consumption are born of parents who are entirely free of lung disease, is the unimpeachable testimony of individual observation and of the statistics furnished by consumptive hospitals and life insurance companies. The fair inference from these facts seems to be that consumption is acquired and not inherited; that the so-called phthisical taint or tendency is simply an impaired resisting power, a vincibility of cells, which may be as well inherited from non-consumptive parents as from consumptive ones, or may be acquired without inheritance; and that, in the contest waged between cells and destructive organisms the vigorous cells may effectually resist while the vincible ones may be overcome and destroyed." He says again: "Years ago the opinion was entertained that consumption was not hereditary, but that the parents of more than two-thirds of all who die of consumption are themselves entirely free of the disease. They do not transmit what they do not possess." And as to treatment he says: "Killing the bacilli or preventing their access to the lungs and fortifying the important cells against their attack, comprise at present our chief if not sole prophylactic resources. Unfortunately no practical method of destroying the bacilli, which have colonized in the lungs, and at the same time saving the life of the patient, has received extensive professional indorsement. What the future may have in store no one will have the temerity to conjecture or deny. But that the treatment of every form of consumption remains substantially as it was before the discovery of the

bacillus, is the sad confession which every enthusiastic admirer of Koch, as well as every practical physician, must reluctantly make." Such are the utterances of a man who stands high in the profession, and his words will receive due consideration.

Numerous expedients have been resorted to recently to try and cure consumptive patients, chief among them the Pneumatic Cabinet invented by Mr. Joseph Ketchum. It is only about three years since its invention and the first experiments were made with it to test its effects upon consumptive patients. The results obtained have been most encouraging and promising. Dr. M. Everett Smith, of Harvard, sums up its effects in these words: "The fever, cough, expectoration and tendency to hemorrhage are all decreased, while appetite, weight, strength and vigor of voice are increased to a marked degree." Dr. Sidney A. Fox, of Brooklyn, speaks encouragingly of the Pneumatic Cabinet, not only in the treatment of phthisis, but other affections of the thoracic organs. Dr. Bowditch, of Boston, says his experience was such that although he had not been able to accomplish thus far such brilliant results as some others had claimed, yet he felt convinced of the very marked beneficial effects of the cabinet in many cases where other means had failed to give relief, and of its curative power in one case of incipient tubercular trouble; and he looked forward with hope to what may be done in the future with this new method of treatment. Such seems to be the unanimous verdict and judgment of all who have tested the virtues of the cabinet in the treatment of phthisis and associate maladies. As to its construction, the manner of using it, how it produces good results in the treatment of disease, and the record of effects obtained by its employment, you will find full and complete details in your medical journals.

Recently, Dr. Cantani, of Naples, has introduced for consumption a treatment, to say the least of it, that is somewhat novel and ingenious, if nothing more. It is based upon the tubercle-bacillus theory of Koch and may properly be called the bacterial treatment of consumption. Proceeding upon the established and indisputable fact that some species of bacteria have a destructive effect upon the culture of others, he conceived the idea of destroying the bacillus-tuberculosis with a pure culture of the bacterium-termo in meat infusion, which was to be used by the aid of the atomizer, and injected into the lungs of the patient. You will find in your journals reports of quite a number of cases treated in this manner with hopeful and encouraging results, one or two of which, as samples, I will quote.

First. "A woman, aged 42, had in the left apex a large cavern. The patient was very weak and greatly emaciated, suffered from a febrile temperature every night, and expectorated large quantities of a purulent sputum containing elastic fibers and numerous tubercle-bacilli. A pure culture was made of bacterium-termo and largely diluted with beef tea. This diluted pure culture the patient was made to inhale, by aid of an atomizer provided with two rubber balls so as to insure uninterrupted atomization. The quantity of the expectorated purulent masses rapidly diminished, and finally, the latter ceased completely; at the same time the tubercle-bacilli, which were formerly contained in the sputa in such great numbers, became less and less, and had totally disappeared by the end of the first month. The temperature also declined and ultimately never reached higher at night than half a

degree above normal; the patient increased during this period 22 pounds in weight, and her general health, as well as her physical strength, had greatly improved."

Second case—"Painter and paper hanger, age 43. He had lost his mother and a brother by consumption. Physical signs showed breaking down in the upper part of the left lung and commencing disease throughout the whole lung. His appearance was typical of advanced phthisis—great shortness of breath, bad cough, etc. Under the treatment of the meat infusion of bacterium-termo, at the end of two weeks his condition was greatly improved. At the end of a month he was well enough to go back to his work."

These results are certainly encouraging and hopeful, and demand farther investigation and study, and may lead, ere long, to the necessity of the apothecary's keeping an assortment of bacteria as a part of his stock in trade.

Within the last two years another mode of treatment of consumption has been employed. Dr. Bergeon, of Lyons, is the originator of this treatment, which is the injection of quite a quantity of sulphureted hydrogen and carbonic acid gas into the patient's intestines. Imbued with the parasitical, microbic, bacilliary views of the day, he set to work to devise some effective mode of destroying the morbid germs. Like other experimenters, he had tried "medicinal agents, by inhalation and by hypodermic injection, but all in vain." He remembered the experiments of Claude Bernard thirty years ago on the absorption of gasses by the large intestines. Even carbonic acid gas, when injected, is absorbed in large quantities without any toxic effects, and the same results were obtained by the sulphureted hydrogen, though, if inhaled into the lungs, it is poisonous. The gas is expelled by the mouth in a few minutes after its injection, without oppression, dyspnœa or intestinal disturbance. And being a powerful microbicide, if it can be made to penetrate and permeate the lungs so thoroughly that, in two or three minutes after its injection, it can be detected on the patient's breath, and unattended by any toxic effects upon the patient, it certainly ought to destroy the tubercle-bacillus and cure the patient, if his disease be the effect of the bacillus. It is said that it can be used in considerable quantities by injection, and the only inconvenience or disturbance that the patient will suffer will be temporary distention of the abdomen, but without pain, and in half an hour after the injection, all the gas is absorbed and expelled through the lungs and mouth. Dr. Bergeon claims remarkable and almost marvelous therapeutic effects for this medication. And why should he not, if the microbic theory of consumption be true, and sulphureted hydrogen be a powerful microbicide, and the lungs, so to speak, can be immersed in it? Certainly, to pass from eight to ten litres of medicated gasses through the intricate structure of the lungs, several times in the twenty-four hours, so that every part of the lung, both healthy and morbid, is certainly reached, is a tangible reality and a new departure in thoracic therapeutics. He says he has been applying it for the last two years to all the cases of pulmonary and throat diseases that have come under his observation; indeed, in more than two hundred cases, and the results have been successful to a degree that has surprised and astonished him. "In early phthisis, even in acute general phthisis, a form of the disease nearly always rapidly fatal, in two or three weeks there is

generally an arrest, and in a few months a cure. . Even in advanced, incurable phthisis, great amelioration is obtained. The pulse is lowered, the temperature falls, the night sweats cease, the appetite returns, the expectoration rapidly diminishes, losing its purulent character, and the cough becomes less harrassing and frequent." He says that amelioration is rapidly obtained in advanced laryngeal phthisis, when all local or constitutional treatment has failed to give relief. And that asthmatic attacks are relieved with more certainty than by any other known means. "These are marvelous statements," says Dr. Bennett, in the *British Medical Journal*, "but, coming from a scientific man of mature age and occupying a prominent orthodox position in a great medical center (Lyons), and brought forward as the result of several years of trial and observation, they must command attention and counter-trial." Not only are these results astounding and marvelous, but they would seem to confirm and establish beyond doubt or question, and plant upon solid foundation, the microbic theory of consumption; but the report says, "that although the bacilli diminish in number they do not disappear from the sputa, even in the cases most completely cured." "This," says Dr. Bergeon, "seems to imply that their presence is not the *fons et origo mali* of phthisis," but, I would say, aptly suggests the query of Prof. Loomis, "whether they are the cause or merely the scavengers of the disease?"

The foregoing are the chief and prominent remedial agencies recently employed, accounts of which have come under my observation, to try to control and destroy this fell monster—consumption—that is still killing one-seventh of the human race. It is well that it should have in the past, and is still engaging "the attention of the keenest observers, the shrewdest pathologists, and the best practitioners."

Research and investigation have been busy trying to find out and devise means and agencies by which, not only the blighting touch of consumption may be averted, but also to arrest the march and stamp out that unwelcome visitor—yellow fever. Proceeding upon the microbic and infectious nature of the disease, and conceiving the idea that all such diseases are amenable to control by inoculation of their attenuated virus, just as in the case of small pox, experimentation has been busy for several years past trying to accomplish that result. And if we are to accept and believe, as true, the reports furnished us on this subject, and they come with all the evidence of truth and reliability supporting them, then indeed, in the future may yellow fever be as completely shorn of its horrors as is small pox. Since 1880 Dr. Domingo Freire, professor of biology in the medical faculty of Rio de Janeiro, has been engaged in scientific investigations concerning yellow fever; as to the microbic nature of the fever, the possible cultivation of the microbe, its physiological and chemical transformations, and last, its attenuation; and, as the result and reward of his investigations and experiments, he has been able to confer perfect immunity upon thousands of persons who, doubtless, would have been carried off by yellow fever. How long this immunity will continue experimentation has not determined, because sufficient time has not yet elapsed to determine that point, "but that immunity exists *ab initio* is an absolute certainty, as has been demonstrated by

most convincing proofs." So says the *Medical Tribune*, of Rio de Janeiro. During the first part of 1885, while yellow fever was prevalent in Rio de Janeiro, he vaccinated over 6000 persons, not one of whom was attacked with the disease. In one district where 3051 were vaccinated, 166 lived in houses where from one to five fatal cases occurred, and 279 unvaccinated persons died. How could immunity and protection be more perfect and satisfactory? And if the protection thus furnished proves as lasting and durable as the effects of vaccination against small pox, nothing but neglect and fool-hardiness can prevent the arrest and stamping out of this dread scourge. But in all probability disbelief, negligence, and obstinacy will always furnish sufficient fuel to keep the embers alive and burning.

The etiological relationship of the comma-bacillus to cholera is still an unsettled question, and during the past year there has been but little additional light reflected upon that subject. The disbelievers in the microbic theory of cholera suggested this difficulty; Microscopic examinations of choleraic discharges from patients, in the early stages of the disease, show comma-bacilli in large numbers, while in the later stages and after death but comparatively few are found in the cadaver; why, it was asked, if the comma-bacilli be the cause of the disease that killed the patient, were they not present in abundance in his bowels and blood just before and after death? But Koch and his adherents, ever equal to the emergency, replied, that the pathogenic bacilli were the cause of the disease, and having accomplished their work and consumed the elements of the blood requisite for their existence, they then perished or were destroyed by the putrefactive bacteria that follow in their train and complete the work of disintegration and dissolution.

This theory is certainly ingenious, even if not demonstrably genuine, and seems to have been the leading idea with Cantani in his treatment of consumption with the bacterium-termo. For the cure of patients suffering with cholera Dr. Cantani, the same physician who treats consumption with the bacterium-termo infusion, recommends strong astringent remedies. He made series of pure cultures of comma-bacilli, and after having added the latter to various peptone solutions, he then added various drugs which he supposed would prevent the farther development of the micro-organisms. When he had thus discovered the best means to kill the bacilli—means, however, that would not prove deleterious to persons using them—he employed the opportunity offered him by the epidemic of cholera then raging in Italy, to test the practical action of the remedies thus theoretically determined. His treatment had two objects in view. First—Limit the farther propagation and development of the cholera bacilli already present in the intestinal canal. Second—Effect their rapid expulsion. To accomplish the first object, the injection of a hot solution of tannic acid has proved by far the most successful. Previous experiments had shown that at a temperature of 100° a solution of this drug, of from one-half to one per cent, suffices to suppress their propagation and make them sterile without killing them, while stronger solutions rapidly destroy them. To accomplish the second object, he says, there is only one method that resulted in success, viz.: The hypodermic injection of warm water. He says: "The effect, which at once sets in after the injection of warm water, is surprising. Individuals who were

lying on their beds cold and unconscious began, in a few minutes after the injection, to give signs of returning appetite, and to micturate." Though the treatment was not so successful as he had hoped at first, "he succeeded in reducing the mortality two-thirds, so that in the very worst cases the death rate amounted to but forty per cent, against sixty per cent of those recovering." This treatment is certainly simple and of easy employment, and though it is problematical whether we will, in the near future, have a visit to our shores of Asiatic cholera, it might be well to make a note of this treatment until something better is suggested.

As to the success of Pasteur's anti-hydrophobic inoculations there still appears to be a great deal of doubt and scepticism, both in the profession and among the laity. Dissenters and critics urge two objections against his method. First—"That he treats his rabid patients with a product that is not rabic." Second—"That the greater number of those inoculated had been bitten by dogs that were not rabid." The first objection is urged mainly by the English and the second by the French physicians; and both appointed commissions to investigate and determine the truth or falsity of his methods. The English commission "went to Paris, and after having witnessed the inoculations at Pasteur's laboratory took back with them a rabbit rendered rabic by Pasteur's method. They inoculated another rabbit with its spinal marrow and afterwards four dogs with the spinal marrow of the rabbit which they had inoculated. The dogs died some time afterwards with symptoms of evident rabies, which seemed to remove all doubts from the minds of the commission." As the result of the investigation of the French commission we gather the following statistics: "Of fifty-four persons bitten on the face and hands . . . by dogs known *experimentally* to have been mad, there was one death, or a mortality of 18 per 1000. Of 400 persons bitten on the face and hands by dogs known *clinically* to be mad, there were 3 deaths, or a mortality of 7½ per 1000." The above is the percentum of mortality in persons protected by Pasteur's method. Whereas bites on the face of unprotected persons show a mortality of 880 per 1000, and on the hands 672 per 1000, the average mortality of unprotected persons bitten on the face and hands being 800 per 1000, against 18 and 7½ per 1000 in persons protected by Pasteur's method. And, compared with the protection and immunity secured by vaccination in small pox and charbon, its protective power is abundantly proven and verified. While vaccination reduced the mortality in small pox from 500 per 1000 to 23, and in charbon from 120 per 1000 to 5, in rabies it has reduced the mortality from 160 per 1000 to 7. It would seem that such results were abundant evidence of the truth, virtue and efficacy of Pasteur's method.

Recently intubation of the larynx has been resorted to as a substitute for, or to supersede, tracheotomy. Dr. O'Dwyer of New York was the first to suggest intubation. Numerous physicians since have resorted to it and speak highly of it as a substitute for tracheotomy. Some of the decided advantages claimed for it are such as the following: No opposition on the part of the parents; it relieves the urgent dyspnœa as promptly and effectually as tracheotomy; there is less irritation from the laryngeal tube than from the tracheal canula; expectoration occurs more readily than through the tracheal tube; there is less danger of pneumonia; it is a bloodless

uates they send out from their walls, advocates for cheap schools, short sessions with easy requirements and certain graduation, and many students attend such schools. Is there a high order of education really required? No, verily, much is demanded but little required. All that is really necessary is the money that will take them through. True, they insist that the applicant for medical honors shall possess a good English education, and, perhaps, a thesis at the end so ungrammatical that an expert could hardly decipher its subject matter if indeed it had any; must have studied three years, have a good moral character—this is fiction and farce. They imitate the best institutions to make their deceptions more inviting. But who ever heard of one being rejected on account of bad moral character? What a company of saints they must be. Now, it is a notorious fact that such inducements are thrown out broadcast over the land with the most unblushing effrontery by such medical schools, that they even allure some who would seek a good professional education elsewhere. They make a grand display of dissecting rooms, pictured in attractive style in their announcements; tables exhibited with a cadaver on each, some in progress of disintegration—demonstrator with scalpel in hand looking ever so wisely, and the students appearing dumbfounded as they seem to think how one small head can carry all he knew. Graduates of such institutions, as a general thing, cannot only not read their diplomas, but know not the etymology of the simplest medical terms. There are many doctors made of very poor material. The country has been deprived of many a fine artisan, many an excellent mechanic, many a grand agriculturist, the main stays and sinews of the land, by trying to make doctors of them. Who has not observed this? This ought not to be so. It seems the general custom in many parts that as soon as a boy acquires the merest rudiments of a plain English education, he must leave the fields of paternal usefulness, study one of the learned professions, especially medicine. Such youths surely think that the profession is easily mastered and the labor attending its future light and easy. In this, as in many other things, they will be grieviously mistaken. But, "where ignorance is bliss 'twere folly to be wise."

As there has been in the wonderfully rapid growth of the republic such a continued and exuberant outcropping of everything, civil, military, and mechanical and literary, and especially in the great west, possibly some excuse may be found for indifferent medical education, and that there was not time amid the popular ferment to give a sufficient length of time to preparatory education may be received as a toleration. But now the condition of things has changed. There is no longer any excuse for ignorance as the land is full of excellent schools, universities and colleges, and any youth of normal capacities, who is thirsting for an education, can by industry and exertion obtain it, and fit himself for the studies of either of the learned professions.

Statisticians have calculated that if the medical colleges in the United States continue to send out as many graduates as at present, it will not be a quarter century until there will be a doctor to every one hundred inhabitants. To speak in a business-like way, the supply will vastly exceed the demand. A writer in the *Weekly Medical* [illegible] ates the annual increase of population in the United States

at 2½ per cent., whilst the increase of doctors is 6 per cent. Under these conditions, should the estimates be correct, ethics will soon be disregarded and competition become degrading in the pursuit of unhallowed greed. A few years ago there was believed to be in Europe one physician to 3800 inhabitants, whilst in the United States there was one to every 500. The proportion in this country will be rapidly increased when we consider the armies of doctors graduated every year. Some may say that we have a vast area of country to be populated; true, but a very large proportion is burning, arid and rainless, and if ever it should be peopled, some wonderful perturbation of nature must take place before it can make water and verdure from burning sands. Others may say there is room at the top, and so it might be, but men are not angels as they climb up and down the rounds of the ladder, and frequently the stalwart and brassy will reach the top when the more deserving and modest will be on the lower rounds or kicked off altogether in the scuffle for preferment.

As legislation does not and should not alone provide for the present, but also for the welfare of men in the far-reaching future, so should we as a profession look to the possibilities and contingencies of the future, that we may by our forethought contribute to the health, longevity and dignity of our race. A distinguished man said, we have but one way of judging of the future, and that is by the past, and in thus judging of the future, we know that we shall not be wanting in any of the elements that shall contribute to place the people of the earth on a higher plane and make them more godlike in their development.

We will now for a few minutes discuss what I, as well as others of the same way of thinking, propose as remedies for some things mentioned above, which from the very nature of their existing condition require examination and review; and first, the kind of necessary education preparatory to the student's entering a physician's office for the study of medicine. I hold this to be of the very greatest importance, a *sine qua non*, that the physician with whom he proposes to study should institute a rigid examination, and ascertain if he has the necessary learning and qualifications to entitle him to such a position. The neglect of such duty has in the past been mainly the source and origin of poor medical education. Now, if a thorough preparatory education was required at the office, there would be less trouble with the colleges, and better classes and fewer graduates would be the result, and the profession exalted to a yet higher sphere of usefulness and dignity. Then the colleges should likewise prescribe a positive education that should better fit the student to study intelligently. All praise to them who have already done so: and not a few have adopted the higher standard. I would not say but that many men have made distinguished physicians who never had the advantages of a classical education, and many men may do so again, but I do say emphatically that a good classical and scientific course of study greatly conduces to the thoroughness and efficiency of their work. The want of it is a misfortune.

The technics of our profession are nearly all derivatives of Latin and Greek roots. Much as some may deplore this fact, it is the inevitable and exists. The Latin was almost exhausted in deriving therefrom immutable derivatives, and of late years

the derivatives from the Greek have been thousands to meet the demands of ever advancing science.

"A liberal education is not information merely on certain subjects of scientific research, but also and chiefly control of the faculties and vigorous use of them for attainment of worthy ideals. It cultivates habits of observation, discrimination, proper inference, rapid continuous thought and acquaintance with scientific method." What consciousness of superiority the classically educated student has when he instantly recognizes the meaning of words as he rapidly evolves them from their roots, whilst the student who is less fortunate plods over his dictionary day and night in the hopeless endeavor of obtaining therefrom the meaning of words by sheer memory, with no knowledge of the beauty and force of their expression. Then I should recommend that the office examination should require that each applicant should possess a sufficient knowledge of Greek and Latin etymology to engender rapid, intelligent and radical thought. But not only this, but a fair knowledge of mathematics, chemistry and philosophy. Now, we are all aware that in such reformation it will take much time to accomplish the desired ends. If we never begin we will never succeed, and better late than never, and if we do succeed in even a quarter century the profession will be ennobled and the people largely benefited.

REPORT OF COMMITTEE ON THE PRACTICE OF MEDICINE.

W. P. HART, M. D., CHAIRMAN,
WASHINGTON.

The history of medicine may very properly be divided into three periods or cycles. First—The period in which the symptoms and manifestations of disease were observed and an attempt at treatment made without any reference to, or knowledge of, their pathological effects or the causes producing them. And the chief remedial agencies employed were efforts directed to the credulity and superstition of the patient so as to impress him profoundly with the idea that his sufferings and afflictions were the visitations and chastenings of the Deity, and could be relieved only by Divine interposition, very much as the prayer and faith-healers of the present day. Second—The period in which the effects and lesions of disease were studied, and pathological investigations were prosecuted with diligence, and far greater success than ever before. Also in this period a materia medica was constructed and the pharmaceutic and therapeutic properties of medicines were studied and investigated. Third—This is the period of the present time, when the causes of disease are being sought for and determined. Not being content with observing and noting the symptoms and pathological effects of disease it is but natural that the restless and inquiring mind should demand to know and understand the causes that produce those effects and symptoms. This is a field of inquiry in which investigation has barely passed the outer boundary, but when it shall have been thoroughly explored by the hosts of busy scientific workers engaged in its exploration, then indeed will medicine rightly claim and be entitled to a place among the definite sciences. When the day dawns that we not only observe the symptoms and effects of disease, but know and understand the causes that produce them, and can confidently say "thus far but no farther," then indeed will ours be a noble calling and the upright and conscientious doctor a being, in reality, but a little lower than the angels. But until this happy period arrives—and we are encouraged to hope and believe it will not be far distant in the future, at least as to a great many diseases—we must content ourselves with medicine as we have it to-day, in its imperfect state, until new discoveries and developments shall magnify it into an exact science. During the last decade numerous discoveries of the causes of disease have been made The microscope has been called into requisition and the arena for the study of micro-organisms, as etiological factors in the production of disease, has been entered. Pasteur and ferments, Lister and antiseptics, and Koch and bacilli have been the pioneers and prominent workers in these departments.

The exact and certain causes of several diseases, which hitherto were not known, it is claimed have been discovered and indubitably determined; while there is a promise that the causes of numerous other diseases will, in the near future, be detected and understood. Pasteur's ferments have worked an epoch in the art of brewing.

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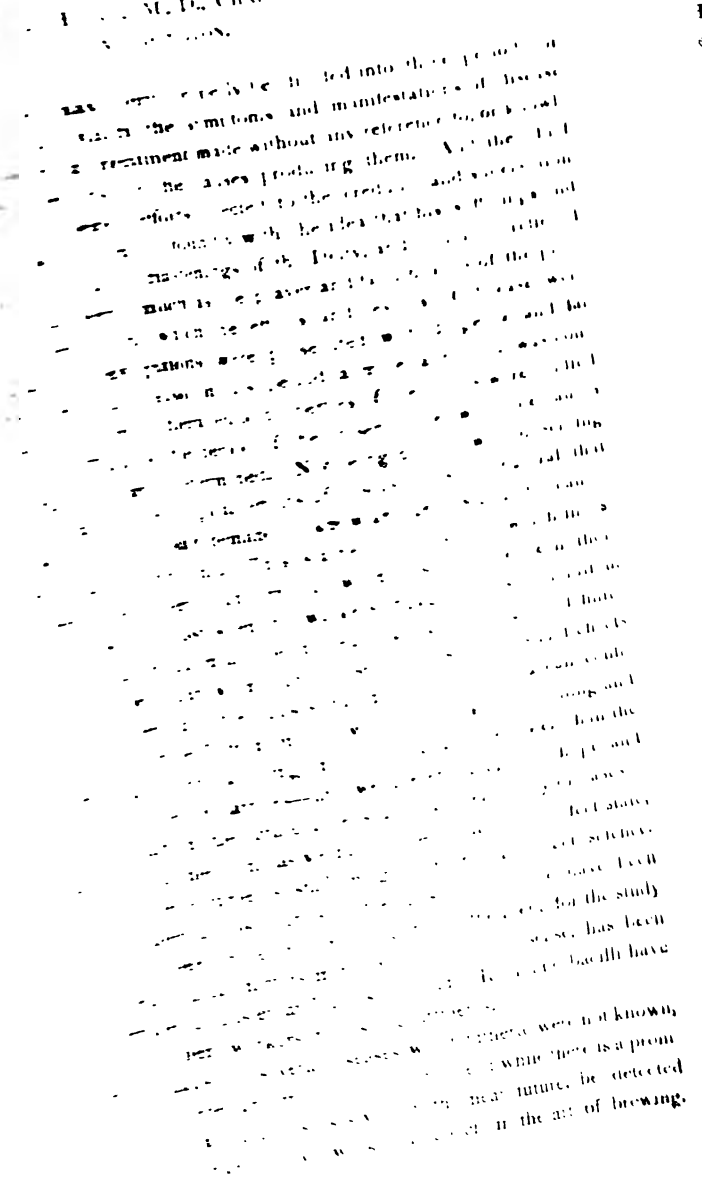
THE PRACTICE OF MEDICINE.

M. D., CHAIRMAN.



THE ETIOLOGY OF MALARIAL HÆMATURIA.—THE PATHOLOGICAL CONDITION OF THE KIDNEY THAT LEADS TO THE HÆMATURIC DISCHARGE.—THE REASON WHY QUININE SHOULD NOT AND ATROPIA SHOULD BE USED IN ITS TREATMENT.

W. P. HART, M. D.,
WASHINGTON.

The treatment of malarial hæmaturia by different practitioners is not only dissimilar but contradictory as to the use of some articles, especially the salts of cinchona. While some physicians prescribe them freely and rely mainly upon them as curative agents, others discard them as not only worthless and ineffective, but absolutely injurious and hurtful. This diversity in practice suggests one of two facts—either that the treatment is purely empirical and irrational or that the ideas of different physicians as to the cause and pathology of the disease are totally different and at variance with each other, and there is but little probability or hope that there will be any more sameness in the treatment until we have arrived at more definite and fixed ideas as to the nature and cause of the disease. We have learned to treat empirically, with reasonable success, that large class of diseases called malarial, but at the same time are painfully aware of the fact that we know but little of the causes producing them, or the manner in which those causes operate to produce their effects. Numerous eminent investigators and experimenters have advanced their several theories of malarial diseases, but none of them have been proven demonstrably correct and satisfactory, or capable of demanding for themselves implicit confidence and credence.

When we take into consideration the diversified climates and latitudes in which these diseases prevail, the numerous and different causes and surroundings that seem capable of developing them, their frequent occurrence, affording ample and repeated opportunities for studying and investigating them in all their types and phases, and then consider the vast amount of labor and research that have been expended upon them, the tact, ability and expertness of the investigators, and the almost perfect instruments, appliances and facilities employed by them in the prosecution of their inquiries, the question naturally arises, why have they failed to arrive at *like results* that are definite and certain? Possessed of their astute research and quick perception, why have they failed to discover and describe the *entity* (if there be such) called malaria, ever so potent a factor in the production of disease, suffering and death? Is it not a reasonable supposition, though not necessarily certain, that better and more satisfactory results would have been the reward of their labors, if *actually there exists such an entity?* And though investigation and research in this line have not been pushed to the ultimate limit, thus excluding the possible existence of such an entity, just in so far as they have been carried and failed of discovery just so far they negative the idea of such an existence. If there be such

an *entity* as malaria, which is recognizable *only* by the arbitrary effects attributed to it, it has thus far eluded successfully all the searching investigations instituted for its discovery. It is too infinitesimally small and attenuated to be detected by the keenest eye aided by the most powerful microscope, or by all the syntheses and analyses of the chemist's art.

The proposition is admitted by all, I believe, that intermittent and remittent fevers and malarial hæmaturia are all produced by the same cause or causes, whatever they may be; that they are but the milder or severer manifestations of the same operating cause, the difference in the effects being determined and governed by the surroundings of the patient and his susceptibility to and impressibility by the causes operating up n him. Superadded to the ordinary symptoms of intermittent and remittent fevers, there is a discharge of bloody urine in malarial hæmaturia which, as the name implies, is the distinctive and diagnostic symptom of the disease. But not every patient who voids bloody urine, even when suffering of fever, is a subject of malarial hæmaturia, because the other symptoms in his case would not warrant such a diagnosis. In clinical practice cases are not infrequently met with in which the administration of large doses of quinine is quickly followed by a discharge of bloody urine, whether it be given in the intermission or during pyrexia, but we would not call such cases examples of malarial hæmaturia. Again, the previous health of the patient would preclude such a diagnosis. There are grave doubts in my mind whether there ever was or can be a case of well marked and fully developed malarial hæmaturia in any patient who has not previously suffered of repeated attacks of chills or fever for a longer or shorter period. And these repeated chills and accompanying pyrexia seem to play an important part in the predisposition to even if they are not the essential factors that lead to the development of the attack. Why one patient should develop this peculiar type of disease while others suffering apparently of identically the same cause or causes should escape, is not my object or province to try to explain, any more than that the same drug will produce opposite and different effects upon different persons. If we knew and understood the exact pathological condition of the kidneys that permits and induces this hæmaturic discharge that knowledge might possibly throw some light upon the etiology as well as the best treatment of this disease. That the bloody appearance of the urine is the result of the admixture of blood, though it may be in a disintegrated and broken down condition, is a fact pretty well established and generally accepted. And while this hæmaturic discharge has been examined and tested both microscopically and chemically, it seems a little strange that so little inquiry should have been instituted as to the condition of the kidneys themselves *during fevers.* I have no knowledge of but one series of experiments, (though there may have been others that have not come under my observation), to test and determine the circulation of the kidneys during fever. In 1882, Dr. Walter Mendleson of New York, in the Physiological Institute of the University of Leipzig, under the advice and auspices of Professor Cohnheim, made a series of practical experiments to determine the point. He embodied his results in an essay to which was awarded the Cartwright prize of $500 for the year 1883, as "the best original research presented to

a committee appointed by the alumni association of the College of Physicians and Surgeons of New York," a full detail of which is contained in the *American Journal of the Medical Sciences* for October, 1883. If we concede the competency and ability of the gentlemen concerned in making these experiments, and their reliability and truthfulness in recording their results, (points in regard to which there will be no question), the facts established by them cannot be subverted or overturned, by quibble, inference or reasoning, because they are of actual observation and the same in every experiment made. It is true these experiments were made upon dogs and for that reason are not so satisfactory and conclusive as if they had been made upon the human subject. Yet they are the first contribution toward elucidating this hitherto neglected and obscure subject, and furnish us some valuable data from which to draw conclusions. Mendleson says, "The object of this research was to determine by experimental methods the actual condition of the circulation of the kidney during fever," not to determine the effects produced upon the kidneys by disease as observed in post-mortem examinations of those organs, not to determine their pathological condition after death, but to determine the "actual condition of their circulation *during fever*" and observe the effect produced upon them by fever. By common consent the proposition, based alone upon conjecture and theory, that the kidneys during fever are congested and engorged with blood, has been assumed as correct and all of our inquiries and investigation have proceeded upon the truth of that assumption. But these experiments establish the following facts:

First—That during fever the kidneys are *small* and *shrunken* and in a state of *extreme anæmia.*

Second—In the absence of a proper supply of healthy arterial blood, in consequence of their anæmic condition, as just mentioned, they soon become structurally and organically involved.

Third—That an injection into the blood of pyrogenous agents, such as pus, hay-infusion and pepsin, will quickly be followed by a rise of temperature and increased blood-pressure.

Fourth—But if the motor and sensory nerves be completely paralyzed by morphine, chloral or curara, there will be no rise of temperature so long as the effects of these agents continue.

Fifth—That the injection of a quantity of morphine barely sufficient to put a dog to sleep, much less produce profound narcosis, is followed in less than two hours by a fall of temperature of 3 deg. C. and that too in spite of the fact that a quantity of pus had been injected in the meantime, pus which in another dog not morphinized, caused a rise of temperature of 3.6 deg. C. in forty-five minutes.

They prove that the injection of morphine and other agents of similar action, is quickly followed by a sudden and great fall of temperature, and that the injection of pus and similar pyrogeneous agents is quickly followed by as sudden and great rise of temperature, in cases where the integrity of the motor and sensory nerves is maintained, but if these be paralyzed by morphine or their connections severed, they completely fail to produce any rise of temperature until the nerves have been restored to their normal condition. How could the morphine have produced a fall

of temperature of 3 deg. C. in less than two hours, and the pus have produced a rise of temperature of 3.6 deg. C. in forty-five minutes, otherwise than through their effects upon the central nervous system? None will contend, I presume, that the depressed temperature under the influence of morphine was not the result of its paralyzing effects upon the motor and sensory nerves, but how did the pus produce so sudden and rapid a rise of temperature except through an opposite effect upon these same nerves? Could this decided rise of temperature in so short a time — forty-five minutes —have been produced by the action of micro-organisms upon and through the blood? Even if the entire amount of pus used in the experiments had been wholly bacterial (though in reality "it was fresh and free of all odor and contained but very few bacteria") how could they, by their disorganizing and disintegrating ravages upon the blood, have produced such a result in so short a time? And if it still be insisted that the rise of temperature following the injection of pus was the result of the action of microbes upon the blood, how will you account for the similar rise that followed the injection of hay-infusion and pepsin? The fact is patent that the rise of temperature was not the result of any effect upon the blood, because when the pyrogenous agents were injected consentaneously with morphine, chloral or curara, they utterly failed to raise the temperature or even hold it to its normal standard until the effects of those drugs had passed off. If the rise of temperature was the result of any effect produced upon the blood by the injection of the pyrogenous agents, why was not the temperature raised in both experiments? They were injected into and present alike in the blood in both instances, and should have caused a like rise of temperature in both, but instead, in the presence of the morphine, the temperature declines, and not until the lapse of about nine hours, when the effects of the morphine may be fairly assumed to have passed away, did they raise the temperature to its original value. These facts show conclusively that the rise of temperature following the injection of pyrogenous agents into the blood, is not the result of any disorganizing or disintegrating effect by them upon the blood, but is clearly the result of their effects upon the nervous system; and farther, that the action of those agents in producing a rise of temperature and all the phenomena of fever resembles if it is not identical with that of some of the ptomaines and that of micro-organisms.

Bacteriologists claim that germs produce disease by their action upon and through the blood without any direct effects upon the nerves; but if the foregoing facts establish any proposition as to the rise of temperature following the introduction of pyrogenous agents into the blood, they prove that it is the direct and immediate effect of those agents upon the nerves, and without any agency whatever through the blood, and upon this and no other hypothesis can we understand and appreciate their action.

Again, instead of the kidneys being engorged and congested in fevers, as is generally supposed and taken for granted upon no better grounds than those of theory and conjecture, consentaneous with the rise of temperature and increased blood pressure, the renal vessels are contracted and the kidneys shrunken and anæmic. The experiments demonstrated this fact to be true regardless of the

cause or causes producing the fever, whether the result of the injection of pyrogenous substances, or of local fever in the brain, caused by heating the blood in the carotids, while the kidneys and the balance of the body remained of normal temperature in one word, when a disturbance is set up in the central nervous system, as indicated by a rise of temperature and other phenomena of fever, the renal vessels are contracted and the kidneys reduced in size and anæmic. And this was the result in every experiment when the motor and sensory nerves were left intact, showing clearly that the response or failure of response of the kidneys depends solely and alone upon the connections and integrity of those nerves, and not upon any changes wrought upon the blood; that the force, the power, that controls the conditions and actions of the kidneys in pyrexias, is of nervous origin and not of any bacterial agency upon or through the blood.

The condition of the kidneys during fever is possibly illustrated in the report of a case occurring recently in the service of Prof. DaCosta in the Pennsylvania hospital, an account of which is given in the *Medical and Surgical Reporter* for December 11, 1886. The case is called a "case of walking typhoid fever, with intestinal perforation and uræmic symptoms." The patient "was in the hospital only twenty-four hours" before death supervened, "during which time he passed no urine," but it is not stated, if known, how long he had suffered of suppression before admission. But it is stated that he was "complaining only for six days, whereas he was probably ill for a length of time." His temperature on admission was 103, pulse 32. Next morning the temperature is "slightly below normal (98), pulse 140," and "he was somewhat cyanosed," evidently in *articulo mortis*. He "died at about 11:30." At the autopsy, made "five hours" thereafter, the "kidneys are rather small (weighing about 2½ ounces). There is some congestion, but otherwise the kidneys are apparently healthy." It looks a little paradoxical that the kidneys should have been "rather small" and at the same time "somewhat congested," and also that so slight structural changes should have been followed by symptoms of uræmic toxæmia. Prof. DaCosta says "the interesting question is, why did he have uræmic symptoms, since the kidneys were *not* diseased? which condition I suggest should have resulted in an increased secretion, instead of almost total suppression." "During 24 hours the kidneys were only able to secrete five ounces of urine," and he asks, "what induced this uræmia?" As there was no disease of these organs discovered adequate to account for the uræmia, "*why then, did it occur?* is the diagnostic point of greatest interest," says the professor. The facts established by Mendleson's experiments furnish a rational and satisfactory reply to these inquiries, and the results observed before death and at the autopsy, were the necessary effects of the conditions of the kidneys under the influence of and during fever.

With this fact established as to the condition of the kidneys during a state of pyrexia, whether it be violent and active or low and adynamic, and a knowledge of the important functions performed by tho e organs i n the human economy, we appreciate the serious consequences that will necessarily supervene upon an impairment of their healthy action. The heart's action being accelerated and increased,

and as a necessary consequence the temperature elevated, tissue metamorphosis is more rapid and the waste products (ptomaines) are accumulated in the system, while the supply of blood to the kidneys—the chief organs for their elimination—is largely diminished, and as a consequence, these poisonous elements that should be depurated by them remain and rapidly accumulate in the body of the circulation, to further embarrass and interrupt the various organs in the discharge of their vital functions. Not only is the system waste-laden with ptomaines and uræmic poisons, and in consequence, the blood supply to all the organs and tissues of the body is poisoned and vitiated, but the kidneys themselves are organically involved. They are not only involved functionally, so that they are incapable of performing their proper work of elimination, but in consequence of the scanty supply of pure arterial blood, the glomerulal epithelium of their vessels is impaired and weakened to the extent of permitting the escape of the elements of the blood, which is charged and laden with the ingredients that work its own dissolution and disintegration, until, instead of being the source and fountain of life and vitality, it is changed in its character and fails in its office of nutrition and repair. It is sick and waste-laden. Vital laws are in abeyance, chemical laws are in the ascendancy, secretions are checked or perverted, elimination is arrested, all the vital forces are deranged or suspended, tissue metamorphosis is rapidly going on, all the fluids and secretions are depraved and vitiated, until the entire system becomes a great laboratory or store-house for the generation and nourishment of the seeds of disease and death. Can we not discover in this condition of the system ample cause for the production of the so-called malarial fevers without invoking the agency of the imaginary and conjectural malarial bacillus? The essential factor in the production of fever, the *causa sine qua non*, is a disturbance of the central nervous system, and no cause is adequate to produce fever that falls short of producing this disturbance. Imperfect digestion and assimilation, coupled with ineffective elimination, that impair and arrest the healthy functions of all the vital organs, are most fruitful causes of fever, as we all have observed; and that the fever thus produced is not the result of disintegration of the blood, but of central nervous disturbance, is proven by the short time allowed the causes to develop their effects and the suddenness of the attack, thus excluding the idea of a period of incubation.

Again, localities that are subject to high degrees of temperature at mid-day and low temperature at night are peculiarly liable to cases of what are called malarial fevers, though there be present none of the other factors claimed to be essential for their development. All the factors, heat, moisture and decaying animal or vegetable substances, claimed to be essential and indispensable for the production of malarial diseases, being present, and the temperature regulated and equalized or the balance and equilibrium of the nervous and circulatory systems maintained, with moderate doses of quinine or arsenic, they will fail to produce disease. But in another locality where the factors are not present, but there is a wide range of temperature during the twenty-four hours, whereby the normal and healthy relation between the peripheral and central systems is disturbed and destroyed, they will manifest themselves. The peripheral nerves transmit to the central system the impress and effect

made upon them by the varying degrees of temperature, and the result is a disturbance of the central nervous system which is quickly followed by all the phenomena of fever, and the type or phase of the fever developed will be determined by the idiosyncrasy of the patient affected and not by the cause affecting h m. In this light only can we account for the numerous and diversified diseases, different from each other in every feature and symptom as well as their treatment, claimed by bacteriologists to be produced by the one specific entity—the bacillus malariæ. Even if we were to admit, for the sake of argument, the existence of such an enti y, and that it could live and multiply in sound and uncontaminated tissues and fluids, we would still be unable to comprehend and explain its action as a cause producing such different and contradictory diseases as are attributed to it, or that it could ever cause disease at all by its action upon the blood except as a ptomaine. *The same definite, specific cause should always produce like results, as in the contagious and infectious diseases,* but the advocates and champions of the bacillus malariæ attribute to it effects not only dissimilar but directly contradictory. There is scarcely a functional disease to which the human subject is liable that has not been set down in different localities or by different physicians as the effect of malaria. Let the aches, pains and fevers be never so different in their manifestations, and indicating different causes of which they are the expression, they are all said to be **malarial,** which is *known* to exist only in the conjecture and imagination of those who look upon it as the all-potential factor in the production of disease, and which, as stated before, in the present state of our knowledge, would entirely fail to produce the results attributed to it, except through its action as a ptomaine, which action would be in conflict and at variance with the effects assigned to it.

We may examine the agency of this imaginary entity in the production of disease from another standpoint. It is claimed by its advocates that it acts upon and through the blood, and its effects are manifested chiefly in a decrease of the red globules and an increase of the leucocytes. By universal consent quinine is the antidote for malarial disease , at least until organic troubles arise, and its action, to be effective and curative, must be directly the reverse and opposite of that of the agent causing the disease. But the effects of this drug upon the blood are exactly and identically the same as those attributed to the bacillus malariæ, viz., a decrease of the red and an increase of the white corpuscles. Further, their effects in increasing the waste products, such as urea, uric acid, creatin, the extractives, etc., are likewise the same and identical, and the above being the chief and prominent effects assumed for the bacillus on the one hand, and the established and proven effects of the quinine on the other, and the effects of both being the same, I submit it is queer practice to administer one agent as the antidote of the other. Better that they be administered together, each as an aid and auxiliary to the other. I am aware of the claim that the effects of quinine upon the human economy are quite as numerous and varied as those of the conjectural bacillus, for whose control and destruction it is administered, but I suggest that the blood, the point of attack of the bacillus, as claimed, is not the field in which the battle is fought, but that the curative effects of quinine are wrought upon and through the nervous system, a point upon which it is not claimed the bacillus makes its attack.

Now then, bearing in mind the different steps and stages in the development of fever—first, a central nervous disturbance which is quickly followed by a rise of temperature and increased blood pressure; second, a rapid increase of waste and poisonous products; and third, a disturbed and interrupted balance and equilibrium among all the organs and tissues of the economy, what would be the indications to be met and fulfilled by treatment? First, relieve nervous disturbance by morphine, chloral, etc.; second, excite the eliminating organs with diuretics, purgatives and diaphoretics, so that the tissues and every part of the body may be depurated and relieved of waste products; and third, restore the disturbed and unbalanced equilibrium by quinine, and that not as a germicide, but through its marked and decided effects upon the nervous system. As the indications to be met proceed from nervous disturbance, they call for an agent whose impress is made upon the nervous centers. That the chief physiological effects of quinine are exerted upon and through the nervous system is not only established and proven by experiments, but clinical practice demonstrates the same fact in every patient to whom it is administered in considerable quantities. Such are the indications presented and such the treatment found to be most effective and successful in ordinary cases of, so-called, malarial fevers, and yet not one of the agents employed to meet the indications is claimed to be a germicide; the nearest approach being the quinine, and the most that can be said for that is, that it lessens the oxidizing or ozonizing functions of the blood and by virtue of that property is strictly an antiseptic and nothing more.

By way of diversion I wish, just here, to protest against the neglect and disuse into which purgatives have fallen Depuration of the organs laden and freighted with noxious elements is one of the chief indications in the treatment of fevers, and purgatives are prominent factors in accomplishing that depuration. Patients may and do recover without them, but theory suggests, and practice confirms the truth of the theory, that they will recover sooner and better with them, and that too with much smaller amount of quinine. The practitioner who keeps in mind all the indications to be fulfilled and directs his treatment to meet these indications, will obtain results more satisfactory to himself and beneficial to his patients than the physician whose only idea is that a germ is present and at work in the blood, and all that is necessary is to destroy it with a liberal and bountiful supply of quinine, though it be not known to be a germicide at all. If a germ be the enemy, attack it with those remedies of recognized and established germicidal powers, such as the bi-chloride and bin-oxide of mercury, that are capable of subjugating and destroying it.

But to return. The treatment outlined above is that suggested by the indications and produces the best results in meeting those indications in all cases of what are denominated malarial fevers, so long as the injury inflicted is functional and transient. But when organic injury supervenes, as in malarial hæmaturia, indicated by the hæmaturic discharge, the causes of which have already been pointed out, a change of treatment, in part at least, is demanded. While the eliminating and depurating functions should be looked to and kept in active play, as far as pos-

sible, the use of quinine which, up to this time has acted like a Sampson, is inadmissible and interdicted. Why? As has already been shown, during fever, and consentaneous with a rise of temperature and increased blood pressure, the renal vessels are contracted, and in consequence the kidneys are shrunken and anæmic, and, in the absence of a proper supply of healthy arterial blood, the glomerulal epithelium of their vessels becomes so impaired and weakened as to permit the escape, through them, of the element of the blood. They are organically or structurally diseased to the extent of being incapable of performing their normal functions, while all the waste products, and especially urea and uric acid which are eliminated by them, are greatly increased. Now what are the effects of quinine upon the renal circulation, and upon the increase or diminution of waste products? By virtue of its effects upon the cardiac motor ganglia it enfeebles and depresses the heart's action, after a preliminary stimulation, whereby the supply of blood to the kidneys is diminished, and they become shrunken and anæmic as shown by scanty secretions and elimination. At the same time it greatly increases the waste products in the system; first, by preventing their elimination in consequence of injuries inflicted upon the kidneys, and secondly, by directly augmenting and stimulating their production, thus aggravating and increasing the very evils and abnormal conditions it is given to control and rectify. It not only increases the work devolved upon the kidneys, but further cripples and incapacitates them for the performance of that work.

If these objections forbid the use of quinine in malarial hæmaturia when there is structural injury inflicted upon the kidneys, why, it may be asked, will the same objections not lie against its employment in all cases of fevers? Because in pyrexias, when the disturbance and injury are merely functional and temporary, although these same evil effects attend its use, it produces beneficial effects that more than compensate for them, as a restorer and equalizer of the disturbed system and promoter of reaction, when nature promptly resumes her sway and those functional disturbances are quickly relieved through increased activity of all the secretory and eliminating organs. In the one case where the injury is functional and temporary the quinine works a relief from its own injurious effects, but, in the other, where the injury is structural and permanent, it fails of reaction and only adds to and aggravates the already existing evils. Hence I conclude that in all cases of so-called malarial fevers, so long as they manifest only functional injuries, quinine is the agent to relieve them, but, when in their progress they develop organic and structural lesions, it is not only ineffective and worthless but positively hurtful and injurious. And the truth of this proposition is verified both by the established physiological effects of the drug upon the system, and the pathological condition of the kidneys in malarial hæmaturia.

At this critical juncture, when the patient's life is suspended by a thread, as it were, and uræmic toxæmia is rapidly developing, we must look to some other agent for relief, whose effects upon the nervous and circulatory systems are the reverse and opposite of those of quinine. I know of no agent so likely to meet the indications as atropia hypodermically administered. Instead of depressing, it tones

up and sustains the heart's action. Instead of enfeebling and paralyzing the vasa-motor nerves and stimulating their antagonists, the inhibiting centers, it encourages and promotes a fuller and freer flow of blood into all the vessels and organs. Instead of augmenting the waste products and, at the same time, arresting their elimination, it stimulates and increases their elimination by virtue of its inviting a greater than normal transmission of blood through all the organs and tissues. According to Bartholow, its effects upon the sympathetic system, on the heart and upon the temperature, are directly the opposite and antagonistic of those of quinine. Therapeutically it meets exactly the indications presented by the patient, and, clinically, as long as there is hope for relief, it will not delude and disappoint us.

As an expression of my confidence in the virtues of atropia, I will say this; if I were dangerously ill of a well-defined attack of malarial hæmaturia, and had reached that critical stage in which uræmic toxæmia is rapidly setting up (that is the danger that threatens the patient), I would, both from a theoretical and practical standpoint, place more confidence and hope in its powers and virtues than in those of any or all other known remedies combined. I would not be understood as saying that we need not employ other agents as auxiliaries and adjuvants at the proper time, and to meet and fulfill the indications demanding their therapeutic effects, as stated before, but when the disease has been developed in all its fury and malignancy, when the patient's life hangs trembling in the balance, and when quinine and the hyposulphite of soda and all other remedies of reputed efficacy in its treatment and cure have failed to bring relief, if there is an anchor anywhere or in anything to the patient's life, that anchor, in my humble judgment, rests in atropia.

CONDITION OF THE KIDNEYS IN MALARIAL HÆMOGLOBINURIA.

J A. STAMPS, M. D.,
WALLACEBURG.

In attempting to give you my views of the condition of the kidneys in this disease I do not intend, nor do I think it proper, to include that preceding period of functional disturbance which, to say the least, is nothing more than a condition that may or may not be a precursor of the disease in question, but shall confine my argument to proving the state of the renal vessels from the time that those pathological conditions have been developed that admit of the escape of a sufficient quantity of pigment to attract the attention of the patient by the abnormal characters of the urinary secretion; for, until this moment we have nothing definite to warn us of the impending storm, and are concerned only in endeavoring to break up a rebellious, so-called malarial, disease of the inter or remittent type.

While fevers may be produced by the introduction of quite a variety of morbific agents into the blood, and while all of them are characterized by a certain degree of similarity as regards elevation of temperature and some of the more prominent physical signs, yet when they are closely studied and illumined by an occasional side-light from the dead-house, which allows us to see clearly the effects produced upon the various structures of the human organism, we find a marked difference in the pathological processes; and, bearing these facts in mind, I cannot accept any theory by which the condition of the kidneys, in one form of acute fever, is ascertained and advanced as a satisfactory explanation of their condition in all troubles in which there is a febrile process, whether of primary or secondary importance in the production of the diseased state. In ordinary fevers we have a rise of temperature, quickened circulation, tissue changes and discolored secretion. The resulting retrograde tissue metamorphosis leads to the passage through the blood of an excessive amount of waste material, which is poisonous to the system in a greater or less degree. As long, however, as these are freely eliminated by the emunctories, or are in sufficient quantities, the blood may remain in a comparatively normal condition, and but little mischief ensues.

Yet no fact is more clearly demonstrated than that this eliminative process is often insufficient to effect the purification of the blood, and as a result of which, with the action of the exciting cause, we have the various pathological conditions present in malarial hæmoglobinuria. This process is rendered insufficient from the fact that in addition to the waste of an ordinary fever we have the excessive destruction of the blood cells and their conversion into pigment granules, and thus not only causing the blood to undergo chemical changes in its corpuscular element, which renders it unfit to vitalize the various organs and structures of the body, but also by being carried to these organs, etc., in the circulating blood, interferes with their functional activity by acting as irritant foreign bodies. Again, there are prop-

erly three stages – cold stage, reacting stage and febrile or hot stage; and, as it is during one of these that the renal vessels are rendered pervious to or admit of the passage of the granular matter from their walls, it becomes necessary for a proper understanding of their condition to ascertain during which one of these stages the process is established.

The initiatory or cold stage is ushered in by a sensation of coldness along the back and extremities which gradually spreads over the entire body, the skin becomes pale and shrunken, taking on the characteristic cutis anserina appearance, and the blood seems to be fast receding from the surface to the interior of the body and at the same time is evidently accumulating on the venous side of the arterial system, and while the kidneys are most certainly congested during this period, it is of the venous and not arterial variety, and owing to the peculiar arrangement of the vessels of the glomeruli, to-wit: The afferent vessel, after dividing up, reunites in such a manner as to enclose the efferent vessel, and so, when the efferent is over full, it lessens the amount of blood in the afferent by expanding, and thus lessening the space in the glomerulus; there is no urine secreted during this stage, but as reaction comes on, the force and frequency of the heart's action is compensatorily accelerated to meet the demands of the overfilled veins, and, as a result, we have the rapid emptying of the venous and the equally rapid filling of the arterial system, and as sufficient time has not elapsed for the cutaneous vessels to dilate sufficiently to receive their share of the blood, it is propelled in greater quantities through the vessels of the interal organs, and the resistance offered by the efferent vessels having been removed with the emptying of the venous system, the afferent vessels of the glomeruli become surcharged with blood, and in obeyance to their principle of increased pressure for increased action if the obstruction offered by the granular matter in their vessels is not out of all proportion to their secretive powers we have a very copious secretion of the characteristic urine during the stage of reaction. But the question may be asked: Why does the blood fall upon the kidneys?

According to M. Foster's views it is the office of the kidneys to remove the greater part of the solid waste material formed in the tissues and blood. And admitting this to be true and allowing the kidneys the power of a selective affinity for those substances that are destined to be gotten rid of by their secretive function, we would infer that, as the amount of solid waste material was increased, there would be an increased demand upon the kidneys, which, however, they could possibly resist for a time, owing to the primarily constricting effects of an irritant acting on its venous filaments; yet, as the demand in the form of recurring attacks and increased production of waste solids increased, their resistive powers would be rendered less efficacious till they would finally be compelled to yield to the inevitable, and in yielding would pour out a most copious amount.

But why do we have a more copious blood supply to these organs than normal? It is well known to all experimenters that the renal circulation is affected in a variety of ways, both by functional and organic causes.

First—In the functional variety, owing to the marked relation existing between the cutaneous and renal vessels, we find a compensatory dilatation occurring in the

one to meet a contraction of the vessels of the other. Dr. Mendelson says: *"Prolonged exposure of the skin to cold, by contracting the cutaneous capillaries, drives the blood from the periphery to the interior, and consequently, more blood will be forced through the kidneys and other internal organs, whose capillaries then dilate to compensate for the contraction of the cutaneous vessels. This explains the increased flow of urine which always occurs after prolonged chilling of the surface. If muscular inactivity go hand in hand with this coldness of the skin, the increase in the amount of urine secreted is still more marked; for, as during repose the muscles are in a state of anæmia, still more blood will be forced into the internal organs. We have a most striking example of this in the chills of intermittent fever, where, after the chill, a large quantity of pale urine is voided. In this case the chill seems strong enough to overcome that anæmic state, which we shall show further on to be the condition of the kidney during fever."

It is an evident fact that the entire circulatory apparatus is under control of the vasa-motor centers, and experiments have shown that a condition of loss of balance is easily induced if the blood vessels are not well under vasa-motor control. Mr. Foster says: "Section of the renal nerves is followed by a most copious secretion by what has been called hydruria or polyuria, the urine at the same time frequently becoming albuminous; the section of the nerves, by interrupting the vasa-motor tracts, leads to dilatation of the renal arteries and this to increased pressure in the small vessels of the glomeruli. We know that substances introduced into or arising in the blood may affect blood pressure by acting directly on those centers. In this trouble we have the foreign substance in the form of pigment granules arising in the blood. Acting on the vasa-motor centers they excite constrictive impulses, which are conveyed to the corresponding nerves of the entire body, lessening the calibre of the arteries. In the beginning of an attack of inter or remittent fever these impulses may be equally (or nearly so) responded to by all the blood vessels."

Yet, with a frequent repetition of attacks, and, as before stated, it being the office of the kidneys to remove the most of the solid waste matter which is formed in the various tissues and organs of the body, the selective affinity of their vessels (if such exists) for the waste material would throw a greater amount of work on them, and with each repetition of the paroxysms, they would respond more sluggishly, till after a time they would wholly fail to respond to the stimuli, or, in other words, become exhausted. The vessels of other areas not having undergone the same amount of work would retain their tenacity and respond to the stimuli of a paroxysm by contracting, thus allowing less blood to pass through them than normal, and this by raising the general blood pressure tending to throw the mass of blood on the other areas; and, as the renal vessels, from the causes hereinbefore stated, having become exhausted and failing to respond to the vasa-motor stimuli (caused by the pigment granules inducing by their action on these centers an undue activity, and the chill effecting an explosion of these latent energies), we would look upon the renal vessels as a field offering least resistance, and in that way, inviting an increased flow of blood to them.

*Handbook Medical Sciences.

Second—Where these functional disturbances are long continued they result in the appearance of organic changes in the circulatory apparatus. Dr. Mendelson says: "In cirrhosis of the kidney (and of course in any other affection where a similar effect is produced) [my addition], where by the obliteration of a number of glomeruli a serious obstacle to the intra-renal circulation is presented, a compensatory hypertrophy of the left ventricle is invariably caused, and in consequence, an elevation of the general arterial pressure results; as a consequence of this the blood is forced through the remaining glomeruli with more than normal rapidity and also at a higher pressure, and in spite of a considerable destruction of secreting surface, more urine is secreted than normal."

Now, if this condition exists in cirrhosis, why can't it exist in any affection where there is a blocking up of the renal vessels. From the fact that the secretion of urine is a double process, viz., that of filtration, which is mainly accomplished by the glomeruli, and this is directly dependent on blood pressure, and that of active secretion by the epithelium of the tubuli, which is only indirectly dependent on blood pressure, and excited, as far as we know, by substances acting directly as chemical stimuli to the epithelium, it is urged that the kidneys do not have an increased amount of blood, but that the urine, which in some few instances is very scant or totally suppressed, is secreted by the epithelium of the tubuli and that it is due to an impairment of the integrity of these vessels. If this is the case, why do not all of the elements of the blood escape? For we know that when the integrity of a blood vessel is severely enough impaired, it allows the red blood cells to escape intact, and we never have it occurring in this trouble. My opinion of the cases of scanty urine is that the production of pigment has reached such an excessive degree as to choke up the renal tubules and prevent the proper amount, or even entirely arrest the circulation through them.

Nussbaum, by a series of experiments to find what substances were excreted by the glomeruli and tubuli respectively, found that sugar, peptones and albumen passed through the untouched kidney, but failed to pass through one the renal arteries of which had been tied, showing that the glomeruli secreted these substances. Urea, on the other hand, gave rise to a secreting urine, when the renal arteries were tied, showing their excretion by the tubuli; and, furthermore, it is not only a general opinion that increased arterial tension is a cause of the appearance of albumen in the urine, but additional proof is evidenced by the chemical observations of Dr. Mahomed, showing that the appearance of albuminuria as a sequel of scarlet fever was preceded by a period of high vascular tension, and the experimental researches of Robinson and Frerrichs, who separately found that after ligating the abdominal aorta below the point at which the renal arteries are given off, and removing one of the kidneys, albumen appeared in the urine secreted by the remaining kidney; and this of course could not have occurred otherwise than by an increased pressure in the renal vessels of the one kidney, and with the amount of blood necessarily thrown upon its vessels there was certainly no anæmic state of its vessels. Again, the presence of tube casts and epithelial cells in the urine of these cases tend further to confirm my views, as we all know that after the congestive or hæmorrhagic period

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of acute albuminuria has developed the epithelial gland cells of the uriniferous tubules are cast off in abundance.

Owing probably to the diversities of opinions and theories regarding the laws that produce and govern this so-called malaria, and from the fact that diseases of a similar character have occurred in districts which were said to be free from its ravages, some have gone so far as to deny the existence of any agent of whatsoever a nature capable of producing the immense variety of diseases that are attributed to this poison. After many years of close study and scientific research our profession has gained some knowledge of the regions in which these so-called malarial diseases are most likely to prevail and the surrounding conditions that seem to most favor their development, and while a good many place the limits of their development to that part of the earth's surface lying between the latitudes of 63 deg. north and 57 deg. south, I am more inclined to accept the maxim of my very dear friend and former teacher, Dr. Lunsford P. Yandell, that, "In all regions except in heaven where there is no sin, and in hell where the intense heat and fumes of sulphur are sufficient to destroy all animal life, we have *malaria*, and it matters not, from a practical standpoint, whether the so-called malaria is due to the introduction of bacilli into the system or to the over-production of waste material and its retention in the form of alkaloids, or lastly, to sudden and wide variations of the temperature of that district, for we all know that produced by what it may, in certain districts, and in some to a considerable extent, there prevails at particular seasons of the year a class of diseases, and while they may differ widely in some respects, yet they have so many relations in clinical history, etc., as to allow them to be classed as different branches of the same tree."

Admitting this disease to be a type of that class of troubles which have been called malarial, and having no means at our command of ascertaining the condition of the kidneys, we would expect to be governed in our opinion by the law "that similar causes produce similar effects," and having autopsies of cases in which other organs were involved, we would naturally conclude that the same state existed in the kidneys. The anatomical changes that take place in intermittent are few, from the fact that in most instances we find in the salts of Peruvian bark and eliminators of effete matter remedies that usually bridge the patient over the attack without allowing any organic derangements to develop, yet if the case go on without the proper treatment, or if it is rebellious to all treatment and succumbs to the disease, the only constant lesions discoverable are congestion of some one or more of the internal organs. The anatomical lesions of pernicious, according to our best authorities, are similar in many respects to those of intermittent, except that they differ greatly in degree, and with the additional destruction of blood corpuscles in amounts, sufficient for their presence in the blood in the form of pigment granules.

Another peculiarity of this poison is its remarkable tendency to attack, or in other words to concentrate its effects, upon one particular organ or structure at a time. This has caused a good deal of skepticism as to the real existence of any poison capable of producing such a variety of troubles, yet we will all admit that it is tolerably clearly proven that all of these types are traceable to a common origin,

and knowing that Divine Providence did not construct us after the plan of the "chaise," all the parts of which were of such equal strength and durability that when one part gave way the entire mechanism fell into an irreparable wreck, we would expect to find one of Dr. Father Gill's "weak spots" in all organisms, either existing before the onset of the disease or induced by its ravages, and the weak spot or organ which, under all ordinary circumstances, would answer all the requisites of healthy functional activity, if subjected to the strain of an increased amount of work or lessened nutrition will be the first to hoist its flag of distress and if not answered by timely aid will be the first to allow pathological changes to develop.

Dr. J. J. Cochran, of Alabama (642 cases analyzed before State Medical Society), says: "that the more obvious *post mortem* appearances in hemorrhagic malarial fever are substantially the same as are found in other malarial diseases, namely, liver enlarged and congested and of dark bronze or slate color, bile abundant in gall bladder and alimentary canal; spleen enlarged and congested but with the additional pathological complication of enlargement and congestion of the kidneys. Morbid anatomy, according to Ferrand, and translated for me by Dr. McHatton, of Macon, Ga., is as follows: "The skin is uniformly yellow and the earlier in the attack that the patient dies the more intense the jaundice. There is no escape of blood from the muco-cutaneous openings, nothing characteristic in the cranial or thoracic cavities. The liver is the seat of decided changes. Estimating the healthy liver at 1796 grammes, the weight is usually increased from 200 to 1000 grammes, this increase being due to congestion. The spleen weighs from two to three times the normal. The kidneys are congested and their weight increased. Many spots of ecchymosis are found in them, principally in corticle substance. The veins are in a state of extreme repletion, in fact the state of congestion is often excessive." [Note. I will venture the assertion that those who died went off in collapse, and this shows the veins to be congested as heretofore stated, and if they had died during reaction, which they never do, the opposite state would have existed.]

Thus in summing up the observations and writings of our profession on the subject of malaria, I find that in almost every instance they admit the existence of such a poison, and the weight of their evidence goes to prove that not only from the symptoms during life, but from the undeniable evidence of *post mortems* where we are brought face to face with the true conditions as they existed during life, the most prominent and constant anatomical appearances are those of congestion, yet it is urged that the *post mortem* appearances do not fairly indicate the condition during life. How has pathology reached its present advanced state other than by the combined evidences of *ante* and *post mortem* researches? And admitting that the *post mortem* of cases dead of hæmoglobinuria a question open for discussion, we will turn to a set of experiments.

I show you a section of a rabbit's kidney in which artificial hæmoglobinuria had been produced by Dr. Mendelson, of New York, and in answering a letter of inquiry, he writes thus: "In order to produce artificial hæmoglobinuria in a rabbit, it is only necessary to inject a few hypodermic syringefuls of diluted glycerine beneath the skin, or instead of glycerine a solution of potassium chlorate may be used.

In fact, there are a number of substances which, when injected into the blood, will cause a disintegration of the globules, and in this way hæmoglobinuria. If the quantity of glycerine has been sufficient (this must be determined for each individual animal separately; but 1 dr. diluted up to ½ oz. would be sufficient to begin with), the rabbit will in a short time begin to pass a bloody-colored urine, and if disintegration has been extensive enough the animal *will die from suppression of urine*, caused by a plugging of the uriniferous tubules by the excreted hæmoglobin. If the rabbit be killed any time during the existence of hæmoglobinuria, its kidneys removed and hardened in alcohol or potassium bichromate solution, then cut and stained, they will be found to present the condition shown in the specimen I sent you. And this condition has existed *during life*, it is *not a post mortem result*. Rabbits treated in the manner just described, finally recover entirely unless the amount of glycerine injected was so large as to cause a very extensive destruction of corpuscles In the interesting series of cases you have reported (Medical and Surgical Reporter, July 3–10, 1886,) the breaking up of the corpuscles was no doubt brought about by the malarial poison."

Thus we see that not only do the symptoms from the beginning of an attack to its final termination in death or convalescence, and in case they die the very strong evidence afforded by a *post mortem* of the case, but in addition to all this, when the disease is produced artificially and the animal killed before the trouble has had time to destroy life of itself, an examination of the kidneys shows "the granular masses of altered hæmoglobin choking up the renal tubules." [Dr. Mendelson]. This offering obstruction to the intra renal circulation while the same amount of blood continues to come to these organs necessarily causes the remaining vessels whose integrity continues unimpaired to have an increased amount of blood passing through them and necessarily causing a dilatation of these vessels, which tend to confirm my views of the increased size and weight of the kidneys.

REPORT OF THE COMMITTEE ON SURGERY.

J. T. JELKS, M. D., CHAIRMAN,
HOT SPRINGS.

Mr. President and Gentlemen of the Society:

In accordance with the Constitution of our Society I am expected to read a paper embodying the advances in all the departments of Surgery during the past year. It would require a great deal of time to review the whole field, and I therefore confine myself to a few of the many subjects with which, doubtless, you are already familiar.

CEREBRAL HEMORRHAGE.

The developement and growth of cerebral localization has been so rapid in recent years that we are now able to accurately locate the seat of tumors and effusions into the substance of the brain, and growing out of this and the immunity with which, under Listerism, we can penetrate all organs, tissues and cavities of the body, cerebral surgery is an established fact. Surgeons no longer hesitate to open the cranium and take out tumors or open abscesses or turn out blood clots; and recently Mr. Victor Horsley has reported three operations on the brain, two for epilepsy and one for cerebral tumor, all the patients recovering. The epileptics had both suffered an injury to the skull, and the operator found depressed bone, which was raised. He discarded the old two-inch trephine and believes the dental engine to be the instrument with which the skull should be opened. He operates under all the details of Listerism. Mr. Horsley does not believe in the use of the cautery to check hemorrhage, but uses the ligature. Mr. Godbe and Dr. Herschfield have each removed a soft glioma from the brain, the locality of which had been previously diagnosed, the patients dying in both instances Mr. Hulke (*Lancet*) has trephined in three cases of cerebral abscess, patients all dying. Mr. Maher has reported opening a cerebral abscess and removing two ounces of pus, with recovery of the patient, a child.

MENINGEAL HEMORRHAGE.

One of the chief evidences of meningeal hemorrhage, which is present in the majority of cases, is the period of consciousness which intervenes after the receipt of the injury or the rupture of the meningeal artery. Other evidences: 2. Hemiplegia on opposite side, with convulsions. 3. Diminished pulse rate with increased tension. 4. Slow and stertorous and labored respiration. The mortality from meningeal hemorrhage is very great, and anything which promises to lessen it should be welcomed by all surgeons.

The trephine is the instrument most generally used to open up the skull. Some trouble is experienced in checking the hemorrhage and Mr. Jacobson discusses what further efforts in this direction should be resorted to if the hemorrhage does not stop after the artery is exposed. Ice is a good application. Actual

cautery has been used with success. Compression or ligature of the common carotid has been tried successfully, though he prefers ligature of the external carotid. Knowing the great mortality of meningeal hemorrhage, it is cheering to find the English surgeons report many successful operations for its relief—as many as thirteen recoveries. Some European operators of note have tabulated as many as one hundred and twenty operations, many of them resulting in recovery of patients.

Professor Kromlim of Zurich reports four cases of meningeal hemorrhage operated on, two of them successfully. He says we do not always find the effused blood in the middle fossa, and if the surgeon opens the skull in the usual place, about one inch or one and one-half inch behind the external angular process, and fails to find the clot, that he should open again further back on the same line.

Professor Christian Fenger of Chicago does not hesitate to open the skull for abscesses or tumors of the brain, introducing a drainage tube and allowing it to remain as long as necessary. He does not usually use the trephine, but takes an ordinary carpenter's chisel and hammer or mallet, and chisels away until he gets the opening as large as is desired. It has been my privilege to be present at many of his operations and to contrast his deliberate method with the old style of rapid work.

SURGERY OF THE THORAX.

During the past winter I saw Professor Fenger operate on a patient for chronic empyema. The case was one of long standing, where the chest walls did not fall in enough to close the cavity. He first of all thoroughly *scrubs* the patient with soap and water, shaves them and washes again with a bichloride or carbolic acid solution and with his assistants, himself and his instruments aseptic, proceeds to the work in a most deliberate manner. In the case alluded to he resected some of the ribs, taking out about two inches of each. It was noted that the bones were very soft and spongy. To prevent hemorrhage into the cavity of the pleura he opened that membrane with a Paquelin cautery at a dull red heat. Patient's wound dressed with iodoform freely powdered on cheese-cloth saturated with an ethereal tincture of same and drawn through the wounds for drainage as well as asepticism; and patient enveloped in cotton batting, mackintosh and loose roller, and with a dose of morphine put to bed. In a few days the patient was sitting up and rapidly getting well. If the chest cavity does not close after the resection of the ribs he then opens up the case, turns the skin iuto the cavity and fills it with iodoform gauze until the parts heal. Dr. Maclaren, in reporting a case of resection of the ribs, believes that in the cases which do not get well after said operation that the junction of the cartilage and ribs should be divided.

STONE IN THE BLADDER.

For some time the law in operating for stone has been, "Lithotomy under puberty, lithotrity for all adults." In June, 1886, Mr. Cadge in his Hunterean Lectures advocates:

First—The more general adoption of litholapaxy in children.

Second—In male children, when the stone is large, supra-pubic lithotomy will prove to be easier than the old lateral operation.

Third—In female children lithotrity at one sitting for small stones and high operation for large ones.

Fourth—In adult women litholapaxy or dilatation and extraction for moderate sized stone; vaginal lithotomy for large ones, and supra-pubic operation for the largest.

Five—In adult males, litholapaxy for stones of an ounce and a half; above that size, lateral or supra-pubic lithotomy—certainly the latter for the largest stones.

Sixth—In the aged, the same rules apply when the bladder is healthy, but when the prostate gland is hypertrophied the supra-pubic operation.

SUPRA-PUBIC LITHOTOMY.

This is an old operation which has been recently revived, and will, I think, stand the test of experience. There are here no important structures to cut, no large vessels to fear, and, in short, everything to recommend it over the old forms of lithotomy.

Sir Henry Thompson has recently written favorably of the operation, and many others both in Europe and America.

Professor Amundale, in the *British Medical Journal* for January 2, 1886, advocates it and advises as follows:

First—Gradual and thorough dilatation of the bladder by injecting some antiseptic fluid.

Second—Introduction of the lithotrite, seizing and fixing the stone in its blades.

Third—Depression of handle of lithotrite so as to press the stone against the abdominal wall immediately above the pubes in the middle line.

Fourth—Cutting down through the middle line upon the pubes and just above it until the bladder is reached.

Fifth—Depressing the handle of the lithotrite until the blades press upon the walls of the bladder and render it prominent at the wound.

Sixth—Incising the thus stretched bladder wall, upon the stone downwards, and pushing the stone through the wound thus made.

Seventh—Removing the stone and with the blades of the lithotrite catching the end of a rubber catheter and pulling it through the wound and urethra, leaving one end in the bladder.

Eighth—Stitching the wound in the abdominal wall and introducing a drainage at the lower end. If the wound in the bladder is small he thinks it is better not to stitch it, but if large, two or more catgut sutures. He does not believe the dilatation of the rectum is required, and that it only complicates the operation.

Since writing the above I have received the recent paper of Prof. Dennis, read before the recent meeting of the American Surgical Association, wherein he claims that the operations for stone have been reduced to two—litholapaxy or lithrotraxy at one sitting, and supra-pubic lithotomy. He advocates this operation because of its extreme simplicity, freedom from risk—freedom from risk of injury to the repro-

ductive organs - radical results and brilliant statistics. His indications for the operation are:

First—In hard, large calculi, and in persons suffering from deformities or paraplegia.

Second—For removal of foreign bodies, as hair-pins, and for the treatment of chronic cystitis.

Third—In cases of tight stricture, fibroma of prostate, tumors of the bladder and for rupture.

In its freedom from danger, its extraordinary simplicity, reduced mortality and its safety for the general practitioner, it compares well with lithotrity at one sitting.

Prof. Dennis has collected 124 cases of supra-pubic lithotomy, done since 1879. Previous to this date the mortality was 30 per cent.; since then the mortality is 14 per cent., and he thinks seven of these deaths may be justly excluded, leaving a mortality of only 9 per cent.

Now if we take into view the mortality from lateral lithotomy, as reported by Sir Henry Thompson, that prince of operators, viz., 12 per cent., you see how favorable is the report of supra-pubic lithotomy, and if we remember that these 124 cases were in the hands of many operators, the comparison is still better.

According to Sir Henry Thompson, the mortality, after lithotrity, is about 6 per cent., leaving a balance of 3 per cent. in favor of the latter. This small difference may be readily removed when the supra-pubic operation has been repeatedly performed by the distinguished surgeons whose field lies in this department of surgery.

Dr. John H. Packard, of Philadelphia, read before the American Surgical Association, a paper on "Supra-Pubic Lithotomy for Other Purposes than Removal of Calculi," in which he advocates this operation for retention of urine due to stricture, retention caused by hypertrophy of the prostate, and for the extraction of foreign substances. His plan of procedure is essentially the same as that advocated by Prof. Dennis and other American surgeons, viz: the rectum distended by a rubber bag containing from 8 to 14 ounces of warm water, the bladder distended with 6 or 8 ounces of warm solution of some antiseptic—say boric acid—operation in the median line, down to the bladder, when it should be fixed by either a tenaculum or suture, and finally opened, the opening being no larger than absolutely necessary, removal of the stone either with the fingers or forceps. If operation is made for retention, then the introduction of a rubber catheter and the closure of the wound around the instrument with catgut sutures.

Sir Henry Thompson years ago advocated this plan as a permanent opening for obstinate retention in old men with enlarged prostate, and the recent contributions have not materially improved upon his operation.

TREATMENT OF STRICTURE OF THE URETHRA.

Recently much has been written on this subject, but nothing new has been advised during the past year. Several writers have claimed much for electrolysis, though they do not settle how much of the success is due to the successive use of larger bulbs and how much to the electrical current.

Dr. W. E. Stevenson and Mr. Bruce Clark have published a paper on the subject, claiming: "That there is no hemorrhage; if it does occur it is accidental, and shows that too strong a current was used." [No improvement in that regard over the old plan of dilatation.] "No anesthetic required." [Neither is one necessary by any other plan of treating stricture.] "Patient can pursue his ordinary occupation." [So he can after dilatation.] "No antiseptic necessary, because the process itself is aseptic." [With perfectly clean instruments, no antiseptic is required by the older plans of treatment.] "In majority of cases no return of the contraction." [The time is too short to claim any such result.] I have noticed that the men who claim so much for electrolysis use *bulbous* bougies and increase the size of the instrument gradually. Then how can they claim that the results are due to electrolysis and not to the gradual dilatation produced by the instrument? I claim that much of the good is due to the latter. One of the bad results produced by the electrolysis is inflammation and suppuration of the testicle.

Dr. Newman, of New York, has recently read a paper giving report of his record—one hundred cases of stricture treated by electrolysis—but in it he advances nothing very new to the profession.

TREATMENT OF COLD ABSCESSES.

Some surgeons advocate the opening of these abscesses by the knife, others prefer the expectant plan and prefer waiting for the abscesses to open themselves. More recently, however, many surgeons have advocated the injection of a solution of iodoform in ether. This promises great success. The plan is to draw off the pus with a large aspirating needle and then inject through same needle an ethereal sol. of iodoform. A solution of 4 to 5 per cent., occasionally as strong as 10 per cent., may be used when the cavity is small. There is some danger of iodoform poisoning—not more than one drachm of the iodoform should be used—occasionally, however, the surgeon must watch the case carefully, as the heat of the body vaporizes the ether and great swelling of the parts ensues, causing pain and uneasiness to the patient.

SURGICAL TREATMEMT OF CERTAIN LIVER DISEASES.

Recently Dr. Geo. Harley has recorded his experience of twenty years in puncturing the liver for abscesses and kindred diseases. His success has been unbroken. He does not claim anything new for the plan advocated. He uses a long exploring needle—say seven inches—attached to a syringe of one ounce capacity, with which suction is made. This he plunges into the liver tissue, avoiding the larger vessels; with the syringe suction is made, and if pus is found which does not flow readily, this small apparatus is changed for a larger one, care being taken not to use too much force, as the liver tissue may be softened and readily come out from the suction used. The operation is to be avoided in cancerous, fatty and waxy livers. Some good effect is claimed from the puncture of the capsule of Glipson. Some surgeons are using this plan to aspirate the large bloodvells direct in cases of congestion and inflammation of this organ. Again, others claim that if no abscess cavity is found and but little blood is removed, the simple aspiration does good in many cases.

Mr. Lawson Tait's plan of treating abscesses of the liver is to open the abdominal cavity, stitch the surface of the liver to the abdominal walls and then freely open the abscess and let out the pus, leaving the two surfaces sutured together with a drainage tube in place. This is the essential plan, with some variations.

SCHEDI'S METHOD OF DRESSING WOUNDS.

Prof. Mike'ecz communicates to the *Brzeglad Lkarski* an account of fifty cases operated on by Schedi's method, which consists in allowing blood to fill up a wound, allowing it to collect between surfaces to be brought into contact, and filling up cavities, etc., claiming that the blood undergoes organization. In the fifty cases but few suppurated, and in some of these the suppuration started from the sutures. But when perfect asepsis was procured, no trouble from suppuration was experienced. When it did occur, no general trouble arose. In most of his cases the dressings were left in place for a fortnight, or even as long as one month.

RETENTION OF URINE.

This is a subject of great importance to the general practitioner, and one in which he should post himself well. It divides itself into three forms: First, those patients who are under 25 years of age. Second, those between 25 and 55 years, and third, those over 55. The first class of patients have probably recently contracted a gonorrhea, and by catching cold or being guilty of some excess have brought on retention of urine from swelling of the prostate gland. In this class of patients the use of a soft rubber catheter will give prompt relief. The second class comprise those who are suffering from closure of the urethra from organic stricture. The third class are patients of advanced years, are the victims of hypertrophy of the prostate gland. In these two latter classes of cases when the catheter cannot be introduced, the aspirating needle or the trocar is the remedy, and some writers have recently reported cases in which the aspirator has been introduced above the pubic bone as many as 38 times in as many days. A ten-cent piece would cover the surface through which the needle was introduced.

Finally, let me call attention to the plan advocated by Sir Henry Thompson several years since, and recently brought to the attention of the profession by Bellfield and others, viz: In cases of obstinate retention, complicated by hypertrophy of the prostate in old men, the making of a permanent opening above the symphasis pubis through which the urine should be passed by means of a catheter.

HÆMORRHOIDS.

B. HATCHETT, M. D.,
FORT SMITH.

Hemorrhoids, or piles, may be defined as varicosities of the blood vessels of the anus and rectum. They often present themselves under various conditions and forms, but the initiatory step in their formation is always that of dilatation and enlargement of the veins, or arteries, or both, surrounding these parts.

The anatomical arrangement, distribution and physical condition of these vessels are peculiarly well adapted to the predisposition to this trouble—their complete anastomoses, their pendent position, their want of valves, etc. This arrangement is such as to form two distinct systems; the one rectal, formed by the superior hemorrhoidal vessels, and returning its blood to the portal circulation by the *venæ portæ;* the other, the anal, formed by the middle and inferior hemorrhoidal vessels, and returning its blood to the general systematic circulation by the *internal iliac;* and yet their anastomoses are so complete, that one system can hardly be affected without involving the other to a greater or less degree.

Hemorrhoids are properly divided in two great classes—external and internal. They are easily distinguishable the one from the other, though they may, and often do, exist at the same time and in the same patient. External hemorrhoids are those formed below and outside of the sphincter muscles of the anus, and their covering is of integument, with sometimes a portion of mucous membrane. They never originate in the rectum proper, and can not be pushed above or inside the sphincter muscles. Internal hemorrhoids originate within the rectum and above the sphincter muscles. They may exist for a long time without recognition or before they appear externally, and when they do protrude below the sphincter, they can, with proper manipulation, be returned. Their covering is always of mucous membrane, and is usually very vascular.

Sometimes a tumor will be met with partaking somewhat of the character of both the internal and external varieties, and some authors have hence found it convenient to designate a third division, but I fail to see the practical utility for such a nomenclature, recognizing the fact that by the enlargement and extension of a tumor of one kind, it may, and does, involve tissues which are the seat of the other variety, and the two may become connected. This is due to the complete anastomosis of the blood vessels, as before mentioned. But this division is not absolutely an arbitrary one, for the formation of each class is dependent upon a different set of blood vessels—the external, upon the external hemorrhoidal veins, and is hence an affection of a part of the general venous system—the internal, upon the internal hemorrhoidal veins, and is hence an affection of, and in fact, a varicosed condition of, a part of the visceral or portal system.

We will first undertake the consideration of the external variety. This affection is so very common, it is an unusual thing for a person to live to the age of half an ordinary lifetime without at some time or other having suffered from it. In the majority of cases, it is allowed to run its own course, and it is only when the patient suffers great pain that he consults a surgeon.

Amongst the numerous causes of this trouble, perhaps the physical predisposing causes before mentioned are the most common and of most importance. Prominent among the immediate causes may be mentioned constipation, pregnancy, straining at stool, and affections of the internal organs which interfere with the venous circulation. All ages and classes of persons are subject to the disease. These tumors may be formed either by a gradual dilatation and enlargement of the vein, or by a rupture of the vessel, producing a hard, bluish nodule containing a blood clot; or a process of dilatation may have been going on for some time when the rupture occurs.

Pain is, in some cases, quite severe and constant, more so when the patient is in the erect position, owing to blood pressure; and when, from a constant dread on the part of the patient to evacuate the bowels, the rectum becomes impacted with fæces the pain is intense, and produces no small amount of constitutional disturbance.

Termination may be in three ways – by resolution, induration or suppuration. Resolution may be complete when the state of inflammation has not been too excessive, or there may remain a cutaneous excrescence or tag. Induration may be the result of a *chronic* inflammatory state, which produces a hypertrophy of the tissues. When suppuration ensues the tumor discharges its pus and then shrivels up, and nothing remains except a cicatrix, or in some cases a tag of skin.

For the treatment of this trouble a surgeon will seldom be called upon except during an attack of acute inflammation, the annoyance produced at other times not being sufficient to excite the patient's apprehension of danger. The preventive means to be employed are simple enough, and yet very effectual. No excesses should be indulged, and the habits of living should be strictly regular. A person affected with external hemorrhoids, can by one heavy meal, an unusual amount of drinking or smoking, or the neglect of the bowe's for even one day, precipitate an attack of itching, pain or inflammation, which will cause a great deal of suffering. Often these attacks can be aborted by rest in the recumbent position, abstinence from excesses in drinking and smoking, and the timely use of a mild mineral laxative. But should the attack continue, and an excessive inflammation be excited, more active therapeutic measures will be demanded. These are operative and medicinal.

It is proper to first try the medicinal means, and if relief be not afforded, then resort to operative. The former consists in the application of ice bags, when the inflammation is high, of local astringents, rest and daily laxatives. The ice application is very grateful, and, short of an operation, is perhaps most likely to prove effectual. It should be constantly and long continued.

Should these measures fail, the tumors may be incised, turning out all blood clots, if any be found, relieving the parts of their painfully congested tension, and bringing about a much needed local depletion. Cutaneous tags may be clipped off with the scissors, care being taken not to allow too much hemorrhage in either case. Iodoform or the bichloride dressing, rest and daily laxatives will constitute the after treatment. Some have advocated the injection of ergotine or carbolic acid into these external tumors, and I have no doubt it is a very safe method of treatment. In my own experience, I have employed this method in a few cases and was very much pleased with the results, though some pain was produced. But, as a method of treatment, I do not consider injections so applicable to the external pile as they are to the internal, as will appear further on.

Internal hemorrhoids are by far of more importance and constitute a much graver character of disease than the external variety, and like the latter, are to be found in all classes of persons. Causes for their production are numerous, embracing all those already mentioned as causing external hemorrhoids, as well as others peculiar to this class, such as an engorged liver or sluggish portal circulation, which prevents the return flow of blood from the middle and superior hemorrhoidal veins.

External hemorrhoids were described as varicosities of the external hemorrhoidal veins. Internal hemorrhoids are likewise varicosities of the middle and superior hemorrhoidal veins; and more, they are often arterial tumors, and from a long state of dilatation the arteries may become of considerable size.

Allingham describes internal hemorrhoids as being of three kinds—capillary, arterial and venous. Upon inspection the capillary hemorrhoids present the character of an arterial nævus; they are never of large size, and never project far into the cavity of the rectum. Their surface is granular, the membrane covering them is extremely thin, and this accounts for the very free arterial hemorrhage from the slightest bruising of their surface, even from the act of defecation. After long continuation the membrane becomes thickened by a process of hypertrophy, the hemorrhage diminishes, and the condition may be changed into either a venous or arterial tumor. The bleeding in this variety is the worst feature of the disease, the loss of daily blood sometimes being sufficient to bring about a routine of serious symptoms, such as anæmia, disturbance of the digestive function, cessation of menses, and a long string of nervous phenomena. These distressing symptoms, in most cases, may be averted by the timely application of a little nitric acid to the bleeding surface of the rectum.

In the arterial hemorrhoid is found a mass of freely anastomosing arteries and veins; the tumors are often large, pulsating and nodulated; they seldom bleed much until they become large enough to be pushed down below the sphincters and become strangulated, when if not at once returned, they produce much pain.

The venous hemorrhoid begins with a gradual dilatation of the sub-mucous veins, and, by a constant growth, becomes of large size—hard, smooth and round—often passing out of the rectum from a slight straining effort, or during the act of defecation.

These three kinds of internal hemorrhoids are often met with in the same patient, and each kind of tumor in various stages of development.

Usually the first symptom of internal hemorrhoids is the loss of blood during defecation—at first mere streaks of redness, which increases until, in some cases, the loss is sufficient to produce extreme anæmia. Occasionally bleeding may exist for a long time before any other symptom is noticed by the patient, or he may experience a feeling of uneasiness in the rectum, as if the organ had not been emptied.

There are certain nervous symptoms which are not infrequently met with, and sometimes even before bleeding, pain or protrusion, such as difficult micturition, diminished sexual desire, uneasiness about the loins and genitals, lassitude, etc. Pain, in some instances, is quite serious, but usually is not very great until the tumor is prolapsed or strangulated. So, also, a patient may be the subject of a protruding pile for years without suffering much inconvenience other than the trouble of reducing them at each act of defecation. In case of strangulation, gangrene may set in, sloughing ensue, and there will be great suffering and much constitutional disturbance.

I have not always found the diagnosis of internal hemorrhoids an easy matter; hemorrhage and pain in the rectum may proceed from other causes, and the surgeon is not warranted in taking for granted the existence of this trouble when his patient states he is suffering from these symptoms. When there has been no protrusion of the tumor, the surgeon should never fail to explore the rectum thoroughly before forming his diagnosis. An enema of warm water may be given, and the rectum cleared of all fecal impaction, when by the introduction of a practiced finger, the trouble may be made out, but the use of a speculum of proper shape should be most relied upon. There are a great many kinds of specula used for this purpose, but the ones I prefer and have found of best practical use are the ordinary small Sim's vaginal speculum, and one of a long, conical, cylinderical shape with a good sized fenestra. When these instruments are dexterously introduced they can be turned from side to side, and rotated around the entire internal surface of the organ, so that by the aid of a strong light, all parts of it may successively be brought into full view.

The treatment of this most common and distressing malady is a subject of very great practical importance—one which the profession has hitherto too nearly ignored. Hundreds and thousands of people have been rendered miserable and burdensome to themselves from a lack of interest or of knowledge on the part of the family physician in securing to these sufferers a permanent respite from their daily torture. A hundred ills of the flesh are referable to the existence of hemorrhoids, which the physician will vainly attempt to palliate by not striking at the root of the evil, and if the patient mentions that he is suffering from piles, the doctor prescribes some simple local application, assuring him that his rectal trouble will be over as soon as his other diseases are cured. The rectum is one of the most important organs of the body, and its diseases are of such weighty consideration that

no surgeon should consider it beneath his dignity to investigate and correct its troubles any more than he would the eye, throat or ear.

The treatment of internal hemorrhoids may be considered under two heads—palliative and radical. In spite of all that the surgeon may say to his patient of the advantages of a radical cure and of the safety and ease with which it may be accomplished, he will find that many more will content themselves with palliation than will consent to radical measures Indeed most cases may be made more tolerable by proper measures of palliation. The most important measure in this direction will be the securing of an easy daily alvine evacuation, and, if it can be, without the exhibition of drugs. Plenty of food of a plain character should be eaten, and all highly seasoned meats, gravies, cheese, etc., and all alcoholic stimulants and tobacco should be interdicted. If the bowels do not act daily from this course of living, a laxative in the form of mineral water, magnesia or cascarine should be used as necessary. Other palliative measures may be had, such as the application of astringents, as sub-sulphate of iron in ointment, applications of cold, etc.

Before attempting anything in the way of a surgical operation for the radical cure of internal hemorrhoids, the surgeon should by all means satisfy himself as to the causes that lead to their formation, and whether the tumors are symptomatic or idiopathic. If in the course of his investigation he finds his patient suffering from a stricture of the rectum at a higher point than the pile, he may be sure that the thing for him to do will be first to relieve the stricture, when he will find the hemorrhoid will disappear. And so it will be if his patient suffers from stricture of the urethra, enlarged prostate, calculus, bladder disease, adherent prepuce, etc.; by correcting these several troubles the hemorrhoid will be cured.

In women diseases of the uterus are a fruitful cause of hemorrhoids, and the physician's therapeutics should be directed to its relief first. So pregnancy is a frequent cause, and the trouble ends with child-birth. Hemorrhoids are also symptomatic of diseases of the liver, kidneys, heart and lungs, and when these causes exist remedies should be addressed to their relief.

But outside of all these causes and means of relief, there are hundreds of cases that require surgical interference. Having decided to operate, the surgeon has a great number of procedures from which to select, all of which I will not attempt to enumerate or describe, but will confine myself to the one procedure which I consider best adapted to the relief of the greatest number of cases. Nor will I presume to say that this method is best adapted to all cases. I refer to the treatment by injections of certain substances, chiefly ergotine and carbolic acid. This method I believe is now well enough recognized by the regular profession to be received as a surgical procedure of very great value. Originating as it did among the quacks, it has been looked upon with no little amount of disfavor and suspicion, and its adaptation by the profession has been attended by those accidents which always accompany a new remedy before its application is fully understood, but this does not diminish its real value. I have employed this method of treatment in quite a number of cases, and I have yet to find one in which the results were not eminently satisfactory. Some of my cases were of long standing, and it seemed the remedy acted more speedily

and satisfactorily in these than in recent ones. I had thought of giving notes on quite a number of cases, but it would too greatly swell the dimensions of this article, which I fear is already growing too lengthy. One case only I will recite.

Case—male, aged about 35 years, carpenter by trade, habits good, health wretchedly poor, had suffered from piles for 13 years, been confined to bed most of the time for 3 years, he was absolutely too weak to sit up, at each act of defecation the bowels would protrude to the size of an ordinary goose egg, the tumors extending all around the anal orifice, hemorrhage at times quite profuse bringing patient into a state of extreme anæmia. Patient was under treatment six weeks, during which time six injections of a 20 per cent solution of carbolic acid in fish oil were made, returning the tumor into the rectum after each injection. In this case it was not necessary to use a speculum, the patient by expulsive efforts being able to protude the pile, the sphincters having almost lost their contractile powers. There was comparatively little pain, and only a slight sloughing of tissues, much less than would have been by any other plan of treatment which it was safe to try, and but for this plan I should have confined myself strictly to measures of palliation. The patient was supported with generous diet, stimulants, and proper tonics. Case progressed well, and in three months time he was a robust-looking man, and though he was treated more than a year ago, he now declares he never felt better in his life.

I could give records of other cases of more or less importance, but this one from actual practice will serve to show some of the advantages this treatment has over others. The patient is not terrified at the prospect of a surgical operation, he is not necessarily confined to bed, and is not subject to any considerable amount of suffering. The cure goes on almost without pain, and without his consciousness. It is applicable to cases where a cutting operation is inadmissible. It acts when used in proper strength by setting up an amount of irritation within the tumor, which results in an increase of connective tissue, a closure of the vascular loops, and a consequent hardening and decrease in the size of the hemorrhoid. Except when sloughing occurs, the tumors are not therefore removed, but are rendered inert and shrivel up, so that they no longer either bleed or come down outside of the body.

Four objections are usually urged against this method, viz.: pain, ulceration, embolus and the uncertainty of the result. Pain and ulceration are matters which depend in great measure upon the strength of the solution employed, and are therefore within the control of the operator. I would never use a solution of greater strength than 30 per cent of carbolic acid, and that only in cases of very long standing; 5 to 15 per cent acts more slowly, but is just as sure of an ultimate good result, and causes much less pain, and the chances of sloughing are very much less. Even if an ulceration should ensue after all these precautions, it is just as easy to control as when produced in any other way, and I dare say they will be produced less frequently than by other means. As for embolus, I can see no more reason why a clot formed in this way should become detached and pass into the general circulation, than should a clot formed on the proximal side of a ligature. If such a result were greatly to be feared or of frequent occurrence, it seems to me that among the vast

number of persons recklessly treated in this way by unscientific quacks, the mortality would be immense, while as a matter of fact, such an occurrence is seldom heard of. The results of this treatment have been almost universally satisfactory, when employed in a careful, scientific way.

Some little skill is requisite in manipulation, and in making the injection properly. The amount injected at each time should not exceed four or five drops, of an ordinary solution, and not more than two or three tumors should receive treatment at once. A week or ten days should elapse before treating others, so as to prevent any great amount of constitutional disturbance or detention from ordinary labor. The injection should be landed as near the center of the tumor as possible, the needle being entered perpendicularly from the apex. If the solution be deposited just beneath the mucous membrane the latter will die, and an ulcer ensue, but if placed more deeply the danger of an ulcer is much less, and the amount of pain is small. If the tumor is protruding, an ordinary hypodermic needle can be used, and the pile returned above the sphincters after the operation. If it is allowed to remain prolapsed, congestion, strangulation, and much pain may be produced. When the hemorrhoids do not come down a speculum must be employed to expose them, and a longer needle is required to convey the injection. The after treatment requires nothing more than an ordinary light diet, and laxatives sufficient to produce a daily evacuation.

REPORT OF TWO CASES OF TRAUMATIC TETANUS.

JAMES A. DIBRELL, JR., M. D.,
LITTLE ROCK.

Case I. I was called November 4, 1885, to see J. R., aged 67 years, white, a street car driver, who had sustained a severe injury of his right foot. I found him at a drug store near the scene of the accident a few minutes after it occurred. In this case, as in all others when a grave injury has been sustained, the first thing done by anxious friends was to pour down his throat a quantity of whisky, which he did not retain. There was considerable shock. His skin was cold and clammy, his pulse small and frequent, and he complained of nausea. He had a few moments before descended from his car for some purpose, and in attempting to get on again while it was in motion, his foot slipped and one of the wheels passed over it. On removing his boot, which was much torn, I found an extensive lacerated wound, involving the instep, the outer border of the foot, and a considerable portion of the plantar surface in front of the heel. The heel and ball of the foot were uninjured. Some of the extensor tendons on the dorsum of the foot and the tendons of the peronei on the outer border were exposed. I could at that time detect no fracture of the tarsal or metatarsal bones. Ground into the soft parts was a quantity of mud and gravel. The tibial arteries were uninjured and there was not much hemorrhage. I thought it proper to attempt to save the foot. The wound was carefully washed out, first with warm water and afterwards with a carbolic solution. I approximated the edges of this extensive wound as nearly as possible with silver wire sutures and adhesive strips, and dressed with lint saturated with carbolized oil. The patient was then sent to his home in a distant part of the city.

November 5. The patient passed a restless night. Complained very much of pain in his foot. Temperature 102°.

November 6. Patient feeling better; rested comparatively well under the influence of morphia. Temperature 99½°.

November 7. Wound foul and sloughing badly. Cuboid bone exposed and found to be fractured. A greater portion of it being loose was removed with forceps. I have but little hope of saving the foot. There is, however, a good prospect of being able to make a Pirogoff amputation, an operation which affords a most excellent stump, especially for a man of his vocation. The wound was syringed with a solution of permanganate of potash and applied warm poultices of flaxseed meal and charcoal to encourage the separation of slough.

November 8, 9, and 10. There is little change in his general condition; has slight fever. The sloughing process, however, is becoming daily more extensive.

I did not see patient on the 12th, but was called early the next morning. I was informed that in the afternoon of the day before he had complained of some

stiffness of the jaws, which he thought was due to having talked too much, and did not attach any importance to the symptom. He had slept well during the night—much more so than at any time since the injury. Early the next morning he asked for a drink of water, and in attempting to swallow it he had a violent spasm of the laryngeal muscles, and for a few minutes his friends thought he was dying. I found the jaws firmly locked, head thrown back and fixed, and every few minutes spasm involving muscles along the spine. Gave fluid extract of calabar bean hypodermically, and prescribed chloral hydrate and potassium bromide. I advised immediate amputation of the foot. The patient would not consent to the operation without further professional advice. Drs. Jennings and Gibson saw the case with me at 12 m., and concurred in the opinion that the amputation would probably increase the patient's chance for life. The operation was at once made, at the lower third of the leg, by muscular cutaneous flap. A quantity of pus was discharged from the external angle of the wound, and it appeared to have burrowed up the leg for some distance between the peronei muscles. The wound was thoroughly washed with a sublimate solution and dressed with carbolized oil and oakum.

The treatment appeared to have no influence over the disease, which grew progressively worse. Opisthotonos present in an extreme degree. Gave occasional hypodermic injections of morphia and atropia in addition to other treatment.

The patient died on the night of the 13th of November, the 9th day after the injury, and about 33 hours after the development of tetanus.

Case II. I saw in consultation with Dr. Wm. Thompson of this city, about 9 p. m. of July 12, 1886, J. C. R., aged 37, white, a painter by trade. He had just been severely burned by accidental contact with electric light wires. I found him suffering intense pain, and also greatly from shock; features pinched, pulse small, frequent and feeble; his body bathed in cold perspiration which stood out in great beads upon his face. Dr. Thompson had given morphia hypodermically and administered stimulants in small quantity, and the patient, he thought, had already begun to react. The burns had been dressed with a paste made of bicarbonate of soda and water. Across the man's chest, extending obliquely downward from the left infra-clavicula, was a burn ten inches in length. It appeared as though it might have been made with a red-hot iron rod three-fourths of an inch in diameter, which had burned its way into the soft parts for more than half its thickness, leaving a deeply charred groove. Another and a more serious burn was on the right hand. Here the wire had burned its way into the palm through all the structures nearly to the metacarpal bones, and more deeply still between the thumb and index finger, destroying, as was soon apparent, both the superficial and deep palmer arches. Another burn, though of smaller dimensions, but sufficiently severe to cause the loss of the finger, was situated on the outer side of the metacarpo-phalangeal joint of the left little finger. The odor in the room was so strong of burnt flesh and clothing as to be sickening.

At Dr. Thompson's request I took charge of the patient, and I visited him the next morning at his home. He was resting quietly under the influence of anodynes which had been given him during the night in quantities sufficient to control pain, and this treatment was continued for the next few days, when it was no longer required.

His temperature was 101°. The burns were dressed with carron oil and cotton batting. The fingers were cold and the ungual phalanges purple, indicating mortification.

On the afternoon of the 15th I was called in haste to see patient. Found profuse secondary hemorrhage from the inner extremity of the superficial palmer arch. Owing to the sloughing process the artery was exposed and easily tied.

On the 17th, two days later, another hemorrhage, though less severe, occurred from the outer extremity of the deep palmer arch. This vessel was also secured without difficulty. The condition of the patient was now about the same—slight fever, with morning remissions. Mortification of fingers, sloughing of the palm, in the burn on the chest, and that of the left little finger, progressed steadily. The burn on the chest, originally narrow and deep, was now a broad denuded surface, 2½ inches in width, and ten inches in length. The ungual phalanges were cut away with scissors, and dead tissue, whenever possible, was removed in the same manner. To encourage this separation warm flax-seed poultices had been applied for several days past.

From this day until the evening of the 25th, the patient appeared to be doing fairly well. He was cheerful, had some appetite and but little fever. His temperature was most of the time normal. On the evening of this day he did not feel so well, complained of headache.

On the morning of the 26th, the fourteenth day after the injury, he had pronounced symptoms of tetanus; stiffness of temporal and masseter muscles, and pain in the posterior cervical region I had but little hope of saving enough of the hand to be of any practical use to the man should he recover, and I advised immediate amputation. The patient consented at once and the operation was made a few hours afterward, at the lower fourth of the fore-arm, with the assistance of Drs. Thompson and Jennings. The left little finger was also amputated at the metacarpo-phalangeal joint at the same time. Chloral in 10 gr. doses was administered every two or three hours according to the symptoms, and ordered stimulants, milk, milk-punch or egg-nog. Under this treatment he seemed to do well, the paroxysms fairly under control, yet they would at long intervals distress him considerably.

On the 29th, the fourth day of the disease, we began to feel hopeful of his recovery. He had passed a quiet day. During that night he slept well and his attendants gave him no medicine. He was for twelve hours without any chloral.

He awoke, however, on the morning of the 30th, in convulsions involving the muscles along the spine (opisthotonos) abdominal and laryngeal muscles. Chloral now had no effect and the patient grew worse and worse until his death, which occurred on the afternoon of July 1st, the nineteenth day of the injury and the sixth after the development of tetunus.

My experience with traumatic tetanus has been unfortunate. Some four or five other cases of the disease seen in my own practice, or in consultation with other physicians, have terminated fatally. Such remedies as arsenic (as recommended by Hodgen), cannabis indica, bromide of potash, chloral, calabar bean, and its active principle eserine, were tried without perceptibly influencing the course of the

disease. Should I meet with other cases, with the present light before me I shall rely chiefly upon chloral administered in large doses, believing it to possess in a greater degree than any other remedy employed, the property of reducing the reflex excitability of the spinal cord. From its effect, antagonistic to strychnine, urethan has lately been suggested as a remedy likely to be of great value in the treatment of tetanus, but so far I have seen no report of a case wherein it had been used.

In only one of the two cases reported can it be said that the value of amputation was fairly tested, for in the other there were three distinct and separate injuries, and while one entire hand was removed, and one finger of the other, there still remained an extensive wound in the chest which might alone have been the exciting cause of the disease.

I believe I would not amputate a limb for tetanus did not other conditions than the disease itself demand it, and in the cases reported I have the satisfaction of knowing that in any view of the case the parts amputated would necessarily have been sacrificed.

In reference to this point, Dr. Agnew says: "Amputation was at one time practiced but with results so unsatisfactory that it met with the unqualified condemnation of surgeons, chiefly through the influence of Sir Astley Cooper in England and Dupuytren in France."

Dr. Ashurst says: "Tetanus has been looked upon as an affection calling for amputation. Laurent has collected seventeen cases of minor and twenty-four cases of major amputations for tetanus, with eleven recoveries in either category; or taking both together a proportion of successes of nearly 54 per cent. In most instances, however, the cases appear to have been examples of the sub-acute or chronic tetanus, in which a good result may often be obtained by internal treatment alone, and on the other hand milder operations of nerve stretching and neurotomy have given at least as good results as amputation. We may probably say then, in view of all the evidence which has been produced in respect to this matter, that while, if the operation appears to be otherwise indicated at the onset of tetanus, it may be considered an additional reason for resorting to amputation, this should not be indiscriminately employed in all cases of tetanus originating in wounds of the extremities without regard to other circumstances of the particular case."

The case of burn is interesting, presenting a comparatively new form of injury, only observed I believe since the introduction of electricity for illuminating purposes. Several cases of instantaneous death from contact with conducting wires of electric light machines have been reported in the secular press and others where serious injury had been inflicted. The manner in which this accident is said to have occurred is as follows: The conducting wires had been cut to allow a house which was being moved to pass, and the divided wires wound into a coil and hung over an iron pin which had been driven into a pole about five feet from the ground, and the current "cut off" entirely, as it was supposed, some distance nearer the machine. Beside this pole the victim was standing waiting for a friend. He had been in the rain all day and his clothes were wet. It was dark, and, not seeing the wire, with the intention of resting against the pole raised his left hand above his

head and placed it against the pole. It came in contact with the wire. Feeling the shock or burn, instantly threw up the other hand which also came in contact with the wire. At this moment the coil fell to the ground and the man on top of it. His cries brought friends to his assistance who endeavored to pull him away from the coil, but without success, and he was only liberated from the terrible situation after one of the wires had been divided with an axe.

TOLERATION OF A FOREIGN BODY—(BREECH-PIN OF OLD SHOT-GUN)—IMBEDDED WITHIN THE BONY STRUCTURE OF THE FACE FOR TWENTY-ONE MONTHS, WITH SUCCESSFUL REMOVAL.

GEORGE F. HYNES, M. D.,
VAN BUREN.

Ben. F. Mullen, æt. 29. Injury received 19th of July, 1885, from bursting of an old shot-gun, the breech-pin of which had, a short time before, been removed to clean the barrel. In replacing a metal screw the thread is sometimes stripped and it is thought this may have occurred in this instance. The gun having been discharged in an attempt to shoot some game bird, the breech-pin was forced violently into contact with the inner extremity of the right superciliary ridge, which yielded so as to allow of damage to the brain, some of the tissue of which exuded; the eye was damaged but not destroyed. Ranging downward the iron mass carried with it part of the orbital surface of superior maxillary bone and the os planum of the ethmoid, leaving intact the facial surface of superior maxillary. Six months after the accident the palate process of this bone was the site of a fistulous opening produced by the sharp angle of the breech-pin, which stood larger end up and rested in a cavity formed by the destruction of the antrum, the ethmoid, turbinated bones, and the nasal septum.

The doctor who saw the patient at the time picked out of the orbit a fragment of the breech-pin and rested satisfied, the patient after three months recovering so far as to be able to do a portion of his farm work. He was the victim of severe neuralgias until the complete removal was accomplished. At Christmas-time feeling something pressing in the roof of his mouth he incised it with a penknife and after the flow of some pus the angle spoken of presented.

I first saw the patient April 12, 1886, and four days later removed the two ounces of iron which had been tolerated nearly two years. There were three fistulous openings through each of which the breech-pin could be touched by a probe, one from the right orbit, one a half-inch below into right naris, the third through the hard palate.

The mode of procedure was excision of right lateral portion of hard palate (uranotony). The soft parts were first dissected up to form a flap, the plate of bone was then removed with a chisel, an aperture three-quarters by one inch was sufficient to allow extraction with forceps, considerable force being exerted. No anæsthetic was used as the danger of escape of blood into the larynx was thought of. The precaution proved wise as the hemorrhage was considerable and patient was thus left in condition to spit out the blood. The time taken was 40 minutes, but it must be remembered that it was necessary to feel the way along, for though the patient thought the breech-pin was in the cavity, a number of able surgeons in both

Crawford and Sebastian counties whom he had visited were of the opinion that it was but a small portion of it, and many of them attempted to pull it out through the small aperture not more than the fourth of an inch in diameter.

The case, so far as I am able to learn, is unique, though Gross in his great work on surgery makes mention of a case that partially parallels it. "A patient of Dr. Donne of Kentucky, a middle-aged man, had the antrum perforated with a small dirk knife. The instrument entered at the orbit, wounding the eye and breaking off in the cavity of the bone, from which it was extracted more than two years afterwards through the roof of the mouth, its situation being indicated by a black spot a short distance from the first and second molar teeth."

The screw which accompanies the breech-pin was undiscovered until in washing out the wound with a carbolized solution the patient coughed and spat it from its bed in the maxillary sinus. Since operating the patient has some vision from eye of injured side, the other being good. Recovery was rapid, and it may not be out of place to mention that after undergoing the operation at noon, he rode home on his mule ten miles that night.

A REPORT OF TWO CASES OF COMPOUND FRACTURE OF BOTH BONES OF THE LEG.

W. B. LAWRENCE, M. D.,
BATESVILLE.

Case I. Two years ago my father and I were called hastily by two physicians in attendance upon the case, to meet them twelve miles in the country prepared to amputate the leg of a man who only a few hours before had been shot. We hurried out to his residence, and upon examination found the patient, Mr. P., with a compound fracture of both bones of the leg, near the middle portion. The man was lying on a bed seemingly about ten inches shorter than his body. The foot of the broken leg had got down against the foot-board of the bedstead, and by such pressure caused quite an angle at the seat of the fracture. The fracture was caused from a gun-shot. Eleven No. 2 turkey shot passed through the leg, entering at the inside, and in a space of about six or eight inches, breaking the tibia and fibula into several pieces. We found, however, the circulation in the foot good and the sensation almost perfect, and this on account of the large blood vessels and nerves escaping injury.

We concluded to try to save this poor man's limb. Immediately relieved the angle at the seat of the fracture, and after arranging a proper bed and having had two nice sand-bags made of the proper size and length, and filled, put our patient on his bed and made the requisite amount of extension and counter-extension, allowing the limb to come down on a board covered with oil-cloth, about the length of the limb and ten or twelve inches wide. We kept the broken leg in good position with the two sand-bags, the one on the outside reaching from or near the great trochanter to the side of the foot, the other from about the middle of the thigh to the sole of the foot; made the bags perfectly stationary by passing three or four strong, broad bandages around the entire board, leg and sand-bags, and tying near the top of the leg. We suggested the application of cold cloths so soon as the wounded limb showed signs of excessive heat, and the treatment of the case in every respect to be carried out on general principles. This constituted the entire dressing. Within a few hours we left the man in a very comfortable condition.

I think it was some four or five days afterwards when we were again called, and for the same purpose, namely, to amputate the leg. We went out, but after examination suggested, and finally persuaded the parties, to continue the plan of treatment for a few days longer. Of course the leg did not look so well as it did immediately after first dressing. Suppuration was quite extensive. The leg hot and somewhat swolen. The man's general condition, however, we thought was good, the bowels acting well, also the kidneys. He had some fever and a fair appetite, and no great amount of pain. On this account we thought best, if possible, to pursue our first mode of treatment.

From this time forward the fracture did as well as possible, or I might more properly say, that nature did her work in a hasty and satisfactory manner, for within seven weeks the man was out on crutches. Still the open wounds were slightly discharging pus, and continued to do so for probably four or five months, and occasionally some spicula of bone. However, six months from the date of the injury the fracture had entirely united and all discharge ceased, and the limb was sound and useful.

The accident happened in rather a singular way. Mr. P. was repairing a gun to the extent of putting in a new tube. He had the barrels in a vise with the muzzle pointing somewhat downward. While he was looking for a tool of the proper kind his wife came into the shop and asked her husband to dinner. He, being desirous of finishing the job at once, requested her to have a seat on a little low bench, and wait a moment or two for him. She took the seat, which happened to be directly in front of the muzzle of the gun, probably four or five feet away. The smith then passed just beyond her to his bench for the necessary tool, and while looking over the bench for it, his little son, 6 or 7 years of age, who happened to be in the shop, took charge of the breech of the gun barrels and with a stroke of the hammer fired the gun. Whether the boy placed a cap on or not we could not find out. His father said he did not think that the caps were on the tubes.

The entire load, or nearly so, first wounded the wife by passing through and tearing away a larger portion of the glutical muscles. It made an ugly and large flesh wound. It was almost time for her to be confined; however, she soon made a good recovery and went on to the end of her term.

Case II. About the 18th of October, 1885, I saw A. M., a negro man 38 years of age, with a compound fracture, and with it considerable comminution of the tibia and fibula. He was a well-digger, and the injury was caused by the premature explosion of a blast. He and his fellow-workman saw the fuse on fire, which so alarmed them that they made an attempt to go out of the well on the ladder. However, they had only gone a short ways up, probably twenty feet, when the explosion occurred. One of the men succeeded in getting out with only slight flesh wounds; the other was found at the bottom of the well, and after removal, and upon examination, discovered to have a very extensive compound fracture of both bones of the leg near the middle portion. I think the bones were broken into eight or ten pieces, the tibia protruding through the calf of the leg to the extent of three inches, and also a fracture and dislocation of the fibula at the ankle joint.

Dr. Crane and my father saw the man within a short time after the accident, which was late in the day. They made extension, counter-extension and pressure enough to bring the broken pieces into opposition, or so near as possible, and to reduce the dislocation of the ankle, and then placing the limb on a pillow and keeping it quiet during the night with bandage tied around the pillow and leg. Gave him an opiate, which gave him ease and quiet until morning.

The next morning when I saw the case with the above-named gentlemen, we, after examination, concluded to try to save the limb, and dressed it in exactly the same manner as case first. For several weeks this limb required a great deal

of attention. Suppuration soon set up and was so extensive that the wounds required to be dressed daily. We did so, and without disturbing the fracture but very little if any, by removing one sand-bag at a time; used an antiseptic dressing in the form of carbolized oil or water, and sustained our patient with iron and quinine, and a nourishing diet. He had some fever for three or four weeks. About three weeks after the injury we put on a fixed dressing of the plaster of paris, and as three openings were still discharging a considerable amount of pus, we made three windows over these openings. By this time his general condition had much improved; we however, kept up the tonic and the dressing; we did not want the pus to drift next to the limb; kept this bandage in this shape for three weeks, then opened it the entire length on the front side and found fracture had united quite well, but not sufficient to warrant us in removing the bandage; so put in a case and brought it back into position, and allowed him to wear it for three weeks longer. All of these nine weeks our patient was confined to his bed. Twelve weeks after the injury he got out on crutches, the wounds still discharging and continued to do so for eight or nine months. Within a year's time from the date of the accident the leg was entirely well, with the exception of a slight shortening. During the entire time no spiculæ of bone were discharged.

REPORT ON STATE MEDICINE.

THOMAS W. HURLEY, M. D.,
BENTONVILLE.

Mr. President and Gentlemen of the State Medical Society of Arkansas:

The embarrassment of my situation on this occasion will, I hope, be appreciated, and the crudity of my remarks be excused when I inform you that it was about the 1st of March when I was made aware that I had been honored with the chairmanship of your Committee on State Medicine. This committee is the most important of any connected with your Society. Its duties are very comprehensive, but the time has been so brief, and answers from committeemen so few, that I cannot present to this body such a report as I might otherwise have done, and such an one as you ought to have, and doubtless expect. What we have to present therefore is given more with the hope of provoking discussion, and awakening a new interest on the subject of State Medicine than with the idea of enlightening any of the members of this Society, so many of whom have had larger experience and achieved a riper judgment than we have.

The past year has been one of unusual good health, throughout the entire State. There has been no epidemic of contagious or infectious disease anywhere in the State, so far as we have been able to learn. Malarial affections, the endemic disease of many localities in our State, have not prevailed to their usual extent. In the North, particularly in the Northwest, catarrhal troubles and the phlegmasia usually attributed to vicissitudes of temperature have been almost *nil*. We had, however, a mild influenza that prevailed in the months of December and January of the past winter, and also a mild epidemic of rotheln during the present spring. With these few remarks we will take up the subject with which we wish to engage your attention for the hour.

We wish to propose a few inquiries into the truth of a proposition which we consider vitally important not only to the State but to the general interest of every social institution. The proposition to which we allude may, with some convenience, perhaps, be expressed in the following terms: Without obedience to the laws of health, it is impossible to secure the highest culture of the citizen – physical, moral, and intellectual—and perpetuate the prosperity, freedom, and glory of the State. In almost all civilized countries laws are passed with the intention of removing conditions which are believed to be injurious to the health of the people. How does this matter stand in our own State? The shamefulness and criminality of the conspicuous neglect in this regard ought to burn the cheeks of our governors, legislators, and I may as well add, the profession of the State as well.

It may be truthfully said that the business of sanitary science begins and ends with man; but language has no single or compound word, or sentence, which expresses fully its varied relations, its social forces and necessities to human life

and human society. Its aim is the growth of an improved race, a healthy life, a useful life, and as long a life as possible Commencing with utero-gestation, it compasses birth, infancy, childhood, adolescence, puberty, adult life, maturity, thence along the declivity of life to old age and to death. If this be so, and we assert it to be a fact, then does it not seem reasonable that public hygiene should receive some recognition at the hands of our chief executive, legislatures, and not only the members of this Society, but the entire profession of the State. Every influence of food and drink, clothing, exercise, education, occupation and climate, comes within its purview. Good health, therefore, embraces value in the broadest sense of that term. On the individual it confers happiness, dignity, and a thousand advantages in the struggle of life; and to the State it gives wealth, power and freedom.

There can be no question of the duty, power and authority of the State to care for its citizens. This is the natural outgrowth of all theories of government which pretend to be paternal in form, and the means to this end will always be a fair measure of the degree of advancement in civilization attained by such government. It is not necessary to tax the time and intelligence of this Society with a long array of examples to establish the fact of the eminent domain of sanitary science.

When we speak of sanitary science we would not be misunderstood. Sanitation can hardly be called a science, as mathematics is understood to be a science. Many of its important factors are, at best, but imperfectly understood. The sanitary laws instituted by Moses are based upon principles which cannot be underestimated or ignored, and it would seem the Egyptians for centuries previous had understood some sanitary questions and their solution better than ourselves. Indeed, the discussion of the problems of life, and the important factorage of ills thereto belonging, by the wise and thoughtful of the ages long ago, is not alone instructive, but has a fascination of its own, and ought to engage the earnest attention of all sanitarians. The great plagues of the middle ages and the desolations following the crusades which swept over Europe, were filth diseases of a preventable character. Many examples might be referred to in foreign countries, but time will not permit, and we must confess with shame for our profession, our people, our law-makers, that we have to go abroad for anything like correct data on the subject of vital statistics. When we come home to our own country—this boasted land of the free, the brave, and the cultured—how do we find this matter at home? How many in this Society who do not remember or have not learned of the many visitations of dreadful epidemic in our own land? Look at Norfolk, Charleston, Mobile, New Orleans, Memphis, Grenada, Shreveport, and many others of our smaller cities and towns! Have we not lost our thousands of the lives of our own people from these causes?

Besides, where is the mathematician among all the great of this great country of ours who can begin to compute the innumerable host that have been carried away by endemic disease; for it is a fact that more sickness and deaths occur annually from our endemics than from pestilence, even in years when these are the most deadly; and, above all causes of sickness and death, malaria holds up its hydra head, claiming its holocaust of victims. And where will you find the astute financier

who can tell the millions upon top of millions of hard-earned money these things have cost the people; and yet how much more lamentable it is, when we consider that all of this might have been prevented. Sanitary science, therefore, is a segment of political economy, and should be encouraged by the State as a wealth-producing factor—riches indeed to the whole people far above that of any earthly value.

Then when we remember that one-third, if not more, of all the cases of sickness, and of the deaths that occur, are preventable; and that the pressure of bad health and consequent poverty, with their far-reaching effects upon the growing and reproductive part of the population, tend to the deterioration of the race, does it not seem reasonable that the government should do something by which these calamities may be prevented? Perhaps some are ready now to tell us that most of the States have legislated amply on this subject, which, for the sake of argument, is conceded, but how is it in Arkansas? The fault in regard to all our health laws is, and has been, their tentative and permissive character; powers are not infrequently given which there is no obligation to use, and which are therefore not used, and the wording of the law has frequently permitted evasion—especially when it interferes with the individual rights of prominent persons, or affects the personal popularity of those whose business it is to enforce the law. It may be believed that certain ambiguities of expression in our health laws were avoidable, but that they have arisen from the difficulty of determining the proper limits of the action of the State, *i. e.*, to what extent it is right to interfere with private property, with private enterprises and with individual responsibility.

These are difficult questions, for though it is undoubted that the community, as a body, has a just power of setting aside the rights of individuals when necessary for the benefit of all its members; yet it is obvious that such power must be exercised with great discretion, lest the rights to property and incentives to labor and to self-improvement should be endangered. Still, it cannot be doubted that our sanitary laws have been influenced by unnecessary timidity, and have been too much hampered by opposing opinions respecting the proper limits of these powers and rights. There are some persons who question the right of the State to interfere with individual action at all—we have some in our legislature – they are not squeamish, however, in prohibitory railroad measures, *per diem*, or laying cable to secure re-election; but, to this it seems answer enough to say that a community is, after all, nothing but a collection of individuals, whose united action is merely the individual action combined, that such union, as represented by the majority, is a necessity for the security of life and property, and in those cases is always enforced, and that there can be no reason why this combined action should not also regulate the important conditions of public health as well as the relations of property and the conduct of individuals. Practically, also, there are conditions affecting the health of its members with which the community at large alone can deal, and with which, therefore, it ought to deal. It can also be shown that the common action has already been productive of the greatest good in several instances, and is absolutely necessary in order to counteract the ignorance, carelessness, selfishness aud avarice

of men. It is the experience of most observers that when a locality, town or city becomes very unhealthy, the usual policy is to conceal the fact as much as possible, and to attribute the mortality to some other than the real cause. The influence of the mercantile part of the community is, in such a case, strongly exerted on the daily press and the health authorities to produce such representations of the condition of things as will tend to allay apprehension on the part of their customers. The healthfulness of a place is usually estimated from its mortality reports, but the reliability of these is by no means always what it should be—depending very much on the honesty, capability or cupidity of the reporter.

The physicians are to a great extent responsible for the truth of the statistical returns, not so much in relation to the number as to the cause of deaths; but none save those who have practised in a city liable to epidemics can realize the enormous pressure which is brought to bear on medical men to induce them to aid in, or wink at, concealing the true state of the case. Of course this kind of policy is exceedingly unwise, but neither the average householder nor community can at present be expected to pursue any other except under pressure.

Hence the necessity of stringent health laws, and honest, capable health officers to enforce them. It not unfrequently happens that a health board may have all the power necessary, so far as the law is concerned, yet may be able to accomplish little or nothing for want of funds to pay the necessary expense of carrying on the work. In 1881, the legislature of Arkansas passed an act establishing a State Board of Health, whose duty it is, or was, to take cognizance of the interest of health and life among the people of the State. What has become of this Board? We will let the Secretary of that Board, Dr. James A. Dibrell, Jr., who is also a member of your Committee on State Medicine, answer the question. He says: "The legislature of 1881 passed a bill creating a State Board of Health. Under this act a Board was organized and did good work, I think, for nearly two years, and though after that in a crippled condition, continued in operation up to 1885. The legislature of 1883 failed to make any appropriation for continuing the work of the Board for the succeeding two years, and the failure was then supposed, and probably was, due to an oversight. The original act stands just as it was, unaltered and unchanged in any particular, but subsequent legislatures could not be induced by any argument that could be offered to make provisions for its support. The State Medical Society for years, through its presidents and committees on legislation, urged legislation looking to the establishment of a State Board of Health. But when it was once obtained all, or nearly all, interest from this direction, and from the profession at large, seemed to cease. A majority of the people and, perhaps, also most of the doctors, think that the only function properly belonging to a board of health is to suppress epidemics and enforce quarantine. In fact, have no use for such a Board, unless in the presence of an epidemic, or actually threatened with one; then they are *very valuable*, but under no other circumstances. It is possible that the act creating a State Board of Health in Arkansas was premature. I think, myself, that one of the most important steps looking to the collection of vital statistics, a duty that naturally devolves upon a local board, is the organization of County Medical

Societies throughout the State. There are, I believe, something over seventy counties in this State, and only about twenty local societies. From local societies, composed of competent men, local boards of health could be formed, and these are all-important auxiliaries to a State Board. Through such agencies vital statistics could be collected, also a vast amount of useful information in regard to prevailing diseases. But here we are met by a serious and grave complication—the present status of the medical profession of the State. The present law regulating the practice of medicine, in its operation, really legalizes quackery. We had before the law was passed our full quota of quacks, but the operation of (more efficient) laws in other States has driven great numbers to our State, where they have found an asylum. . . . . Our laws, so far as my information goes, have never prevented any one from practicing medicine, for any one, who may desire it, can obtain the much coveted 'certificate.' In some of the counties may be found excellent Medical Boards. But what does the candidate do? If refused the certificate in one county, he goes to another, and keeps going until he gets it, and when once obtained, it is, of course, good in any county in the State. Of such material is a large part of the medical profession of Arkansas composed. I do not, therefore, see how any satisfactory work can be done in the matter of collecting vital statistics, or any reliable reports obtained in regard to existing or prevailing disease, until competent men can be had who can engage in the work. For of what value would a certificate of death be, or a statement as to the character of a certain disease, from a person wholly uneducated, and, therefore, incapable of making a diagnosis in the simplest cases? I made an effort in this direction when Secretary of the State Board of Health, as you may remember, but, for reasons already given, the work was suspended, and I regret that I am not now able to give you anything that will be of service to you in the preparation of your report."

In a letter received from Dr. Putnam Dickinson, of Howard county, in speaking of this same matter, he says: "In regard to State Boards of Health I have no well-digested suggestions to offer; and while it is our duty to persevere in such efforts before our legislature, we are certainly so little rewarded for our efforts that we might well become disheartened."

Dr. G. W. Hudson, of Camden, says: "I do not know that I could suggest anything of more importance than to insist upon the necessity of keeping the subject of public hygiene before the people, and educate them to the proper appreciation of having laws passed for the establishment of boards of health, and regulations for the government of the same throughout the State. I cannot refrain from expressing my belief that the time is not very distant when those having the public health in charge will be held responsible for damages caused by the outbreak of preventable disease, when the means of prevention have been neglected, as the authorities are now made responsible for broken limbs by reason of defects in the public highway."

Dr. Jno. D. Jordan, of Eureka Springs, says: "I think the greatest drawback to State medicine in Arkansas is the want of co-operation among the medical men of the State."

These extracts contain facts and suggestions full of thought, not only to the members of this Society, but to the entire profession and people of our State. Take the records of the Boards of Health of this country and what do they teach you? With a few honorable exceptions they are nothing more than mortifying, conspicuous and discreditable failures, and *we* may very appropriately ask ourselves, why the cause of these stupendous failures? Is it politics, jealousy, envy, or has the medical profession failed to furnish teaching, and, above all, such results as will convince legislators, National, State and Municipal, of the practical value of hygienic science as applied to the sanitation of the people? It has not been so in England, in France, in Germany, or even in Sweden. In those countries legislators give money and power freely and gladly to the representatives of sanitary science. Are the members of the profession in those countries better able to teach the people; better able to convince them of the necessity and value of sanitation, riparian and municipal? Or are the people there better able to receive and understand such instruction from the representatives of sanitary science? No, none will admit that the teachers abroad are better, or that their audiences are more competent to receive instruction. If this be so, and it certainly is so, what is the cause of the almost complete failures of the Boards of Health in this country? Can it be, as our friend Dr. Dibrell suggests, that such legislation is premature, at least so far as applied to our State? It is not all the fault of the people, most certainly. Then the question very pertinently suggests itself, is it the fault of the medical profession? Have the methods used by it to secure proper legislation, or the administration of the affairs of health boards, been defective and faulty, insufficient and inadequate? Or, as suggested by Dr. Jordan, is it the want of co-operation among medical men?

Gentlemen of the State Medical Society of Arkansas, let us study well to understand the responsibilities and duties devolving upon us. Let each one realize to himself that it is the duty of such a body as ours to so study facts and inferences as to present conclusions to the citizens of our State which will impress them with the necessity of carrying out our suggestions, and mayhap of providing a practical system of sanitary inspection and control which will give force and vigor to sanitary science and preventive medicine.

REPORT OF COMMITTEE ON MEDICAL EDUCATION.

W. W. HIPOLITE, M. D., CHAIRMAN,
DEVALL'S BLUFF.

Mr. President and Gentlemen:

The subject of medical education is one which has been so widely discussed, and upon which so much has been written, that it has become old, and I might add almost threadbare; and yet, considering its relations to medical science and the fact that it so vitally affects the dearest interests of mankind in every walk of life, it is a subject which should be of paramount importance to every intelligent physician. These thoughts justify us in respectfully submitting for your consideration the following condensed thoughts gleaned for this occasion.

Although the demand for a higher medical education has been more urgently presented during the last two decades, and especially during the last one, than at any other time during the history of medicine in the United States, yet it can justly and truly be said that at no other time has the necessity for this demand been so urgent as at the present time. It is well known to every one who is familiar with the subject of medical education, as it exists to-day, that in a large proportion of the medical colleges of this country the standard of requirements for graduation is miserably low. For nearly half a century the American medical colleges had a standard of medical education which was broad, thorough and liberal; and by a common consent this standard was faithfully kept and was enforced by a common co-operation. By this standard the aspirant for medical honors, before being allowed to matriculate as a student of medicine, was required to possess a diploma from a literary college; or, in lieu thereof, to pass a satisfactory examination in the rudiments of the Greek and Latin languages, as well as in grammar, composition, mathematics, natural philosophy, etc.; while it was equally demanded that he who would exercise the functions of a medical teacher must not only be known as a man of genuine learning but also as a man of recognized ability and eminence in his profession. But, unhappily for the interests of medical science, this state of things was not destined to continue. Innovations upon this very reasonable and honorable standard of requirements began to be made during the early part of the present century. The old University of Pennsylvania—the first of American medical colleges, the first to erect a medical standard and to present a medical curriculum in the new world, in every respect equal to the best medical schools of the old world—after having stood upon this broad foundation for nearly half a century, was the first to violate the standard it had itself erected. Jealous of the success and patronage of rival medical schools, it made the announcement, not lessening the qualifications necessary to the matriculation of the student, but lessening the time necessary to the medical degree from five to three years.

From this time forward the lapse of medical prestige, dignity and learning increased with the increase of years. Medical colleges now soon began to spring up everywhere; and this increase of medical colleges was necessarily followed by an increase of competition between aspiring rival medical schools—a struggle for the largest following and for the largest class of graduates. These ends were best, and perhaps only, to be attained by shortening the collegiate terms, lessening the collegiate fees, and lowering the qualifications necessary to the doctorate. These defections and innovations upon the just demands of medical science have been increasing from year to year until odium has fallen upon the good name of the profession; and when we think of the meagre preliminary training of the average medical student, we can no longer wonder that the average American medical diploma has become a thing of derision and contempt abroad.

While it is true that the two last decades have brought more real advancement in medical science than the two centuries preceding; and while we, as Americans, have great reason to feel proud of the advances made and work accomplished by eminent American physicians, it is a humiliating and notorious fact that it requires less time and no more intelligence or preliminary education on the part of the student to graduate him from a large per centage of our medical colleges than it does to turn out a carpenter, blacksmith, shoemaker or other artisan.

If a discriminating public are acquainted with the fact—as they most certainly are—that it requires several years of study and labor to learn to exercise the functions of any of the ordinary trades or callings, can they be made to believe that ours, the most intricate and learned of all the sciences, can be learned or taught in a short time? If, as it is everywhere known to be true, it requires three years to learn the trade of a barber or a shoemaker; four years for that of a carpenter, a painter, a turner or a plumber; for a machinist five years, and for a common pilot seven years, upon what principles are the masses to believe that the wonderful machinery of the human body, its complex and delicately balanced laws of life, shall be learned in so many months? And if the moral sense of any well-ordered society shall refuse to put their lives into the care and keeping of a steamboat pilot who has not carefully studied his calling for at least seven years, how could that community respect our profession in being less wise and humane? And yet we are convinced that any student of ordinary ability, after one year's diligent study, would be able to compete successfully for a degree at the majority of our medical colleges. Then need there be any wonder that the notion which has somewhat prevailed in the world that men were born doctors rather than made such, has scarcely yet died out, but even in these times is entertained by many?

Instead of improving, this condition of affairs is growing worse and worse; and as this continues, the classing of medicine among the learned professions becomes more and more a fiction. But wherein lies the remedy for this great evil? As things now are it is useless to look for reform among a majority of the medical colleges, for they cannot afford to raise their standard. We believe that if reform comes at all, it must and will come from the ranks of the profession. Improve the soil and the products of the soil will improve in like ratio.

While we are necessarily dependent, to a great extent, on the medical schools for a solution of the vexed question of medical education, it is believed that the members of the profession and the schools are equally responsible, as well as entitled to the credit of the work done. We, as members, are as much to blame for the entrance of unworthy and imperfect material int › the ranks of the profession as are the schools. We send the material and the schools utilize it. Then why blame and decry the schools when we send them unfit material? All are equal sharers in the honor as well as the dishonor of the professional household; and no one can lay claim to exemption from responsibility.

Every member of the profession who is applied to for advice and guidance in regard to the study of medicine should recognize the importance and responsibility of his position, in order to do his full duty to all concerned. Scrutinize your material thoroughly and, if found wanting in any respect, reject it. The moral qualifications should be canvassed, as well as the mental and literary endowments and attainments, of the prospective medical student. Ignorance may be overcome by education and application, but immorality is an incurable defect; hence the doors of the profession should be closed to such applicants.

The foundation of the student's medical education is laid by his office preceptor, and it is a work which cannot be overestimated; for no one exerts a greater influence or sustains a closer relationship. He is the molder and shaper of the student's entire future medical career. His teachings and example are indelibly impressed on the mind of the student, as you all know from personal experience. How important, then, that he should possess the moral as well as the medical and literary qualifications so necessary for this important work. Let him, therefore, start the student in the right direction, so that the work may be pursued in a systematic, direct and thorough manner. This would aid the schools greatly in selecting the proper material for doctors. It is with a deep sense of regret, that all must and will admit that students are frequently selected in a very loose and slip-shod manner.

But the work should not cease here; the same scrutinizing course should be pursued until the student is qualified to graduate from college. The profession should advise and direct their students to the best and most thorough schools. By the best and most thorough schools is meant those medical colleges whose methods of teaching are first-class, thorough and complete; and whose curriculi are extensive, graded and progressive. It is clearly the duty of the rank and file of the profession to encourage and support, other things being equal, the three or long-termed graded colleges; and where a preliminary examination is required, and strictly and faithfully carried out. It is to be regretted that these schools have not met with that support which they deserve, and are so clearly entitled to. The adoption of the three-termed graded courses is a grand step in the right direction for the real advancement and elevation of the standard of medical education. This is a step all first-class medical colleges will be compelled to adopt sooner or later, and it should be made obligatory upon all.

The usefulness of a medical school depends upon the amount of education—primary and ultimate—which it requires, the fidelity with which it exacts its own professed requisitions, and the train of healthy exertion, active inquiry and rigid, methodical, self-regulating study to which it introduces its pupils. The longest lectures are of little use to students who lack a common education, and whose medical education does not qualify them afterwards to observe, to inquire and to discriminate.

Medical instruction should be adapted to the power of students to receive and retain what is communicated to them, and should be confined to what is important to them in their subsequent life. The subjects most important to be well taught are the elementary principles which constitute the framework of medical science, and the mode of thought and inquiry which leads to just reasoning upon them. After these most attention should be given to selecting and enforcing such practical truths as will most certainly be wanted by the young practitioner in his future career of responsibility.

In modern times the constituent branches of medical science are so expanded, and medical science has, at this day, become so unwieldy, and contains so much that is unnecessary—at least to beginners—that the attempt to explain to students the whole is likely to involve the result of their learning but little. Most of the constituent sciences which are nominally included in a modern medical education, are now so extensive that the cultivation of any one of them may afford abundant occupation for a common lifetime. Medical literature has become so vast a subject that the uneducated student is apt to be lost in the maze of books and sciences which seem equally to press upon his attention, and he is likely to fall into the pernicious error of thinking that he must read a great deal, even though he remembers but little.

It is the business of lecturers in medical schools to condense and abridge the sciences which they respectively teach, to distinguish their essential and elementary principles, to sift carefully the useful from the superfluous, and to confine the scope of their teachings, as far as possible, to what is true and profitable, and likely to be remembered and used by their hearers. It is unfortunately too true that, "in an extended system of instruction, there is much that the student will not master, much that will have escaped his attention, much which he ought to know that he has not learned." The remedy appears to be to teach him well what he can and should master, and briefly to point out to him the sources, fortunately abundant, from which he may obtain the rest. The true object of medical pupilage should be, not to read but to study, to observe and to remember; not to pass superficially over the writings of celebrated medical men, but to select those which contain a condensed view of condensed and elementary facts, which separate the wheat from the chaff, and offer what is fundamental and useful within a compass which is capable of being impressed on the memory.

If the profession generally were to adopt the course above indicated, there is no doubt that the character of medical students would be much improved.

There remains much to be done to elevate the standard of medical education to that point which it should ultimately reach. There should be an emphatic demand for a higher, broader and more thorough culture on the part of those who would assume the responsibilities of the practice of medicine. The position is here assumed that if every member of the profession would consider himself personally responsible for the defects in the methods of medical education, much reform would be brought about by which they would get rid of a great deal of the vast amount of the drift-wood which is now floating in its channels. There should be an earnest and widespread movement by the intelligent and thoughtful men of our profession—by those who love their profession and who are determined to vindicate its honor—for medical regeneration and reform, and it should be carried forward by the eloquence and power of the profession until the great army of ignorant pretenders, who are despoiling the sacred temples of our art, are swept away.

REPORT OF THE COMMITTEE ON MEDICAL LEGISLATION.

WILLIAM H. HAWKINS, M. D., CHAIRMAN,
TEXARKANA.

Gentlemen of the Medical Society of Arkansas:

Your committee to whom was delegated the task to interview the solons of the last Arkansas legislature would beg leave to report:

That the members, consisting of Drs. W. P. Hart, D. C. Ewing and W. H. Hawkins, (Drs. D. E. Byrd and D. A. Linthicum not appearing) repaired to the capital. At 10 a. m., January 25, held an informal meeting, and at 12 m. repaired to the Medical Department of the Arkansas Industrial University, where we were met by the faculty of that institution. We had formulated a bill but did not submit it to the faculty. The bill here referred to will hereinafter be engrafted as a part and parcel of this report. We would say that the bill was drawn up in the spirit of the instructions of our last meeting, and had for its object the establishing of a hospital, general in its character, under the auspices of the faculty of the Medical Department of the Industrial University, and was as follows:

"A bill for an act to be entitled 'An Act for the establishment and maintenance of a State General Hospital at Little Rock, Arkansas.'

"SECTION 1. Be it enacted by the General Assembly of the State of Arkansas, That there shall be established at the city of Little Rock, in connection with the Medical Department of the Arkansas Industrial University, a hospital, to be known as the Arkansas State Hospital, to be general in its character and to be maintained at the expense of the State.

"SEC. 2. For the purpose of erecting and equipping said hospital, the sum of thirty thousand ($30,000) dollars, be and the same is hereby appropriated, and for the maintenance the sum of ten thousand ($10,000) dollars be appropriated for each year of the next two fiscal years.

"SEC. 3. That said hospital shall be under the control of a Board of Trustees, consisting of five persons, to be appointed by the Governor, with and by the advice and consent of the Senate, no two of whom shall be residents of the same congressional district, and at least three of whom shall be reputable practising physicians, and in the event of a vacancy, either by death or resignation, during the vacation of the legislature, the same shall be filled by appointment of the Governor.

"SEC. 4. That said Board of Trustees, when appointed and qualified as required by section three, shall proceed at once, or as soon as practical thereafter, to organize by the election of a president and secretary, and to select and purchase the necessary grounds for said hospital, and to erect or acquire by purchase all suitable and necessary buildings for that purpose

"SEC. 5. That all the moneys appropriated for said hospital shall be paid upon the warrant of the secretary, countersigned by the president of said board of trustees.

"SEC. 6. The said Board of Trustees shall receive no salary or compensation except their actual expenses while in the discharge of their duties as said board.

"SEC. 7. That there shall be a resident physician in charge of said hospital who shall be paid a salary of $2000 per annum, to be paid in quarterly instalments, and one skilled apothecary, whose salary shall be $800, and one hospital steward at a salary of $500 per annum, to be paid as specified for the resident physician. All other help needed to be employed by the resident physician and paid for as other necessary expenses.

"SEC. 8. That the President of the State Medical Society shall appoint a reputable physician in each county of this State who shall examine all applicants from his county for admission to the hospital, and none shall be admitted except upon the certificate of such examining physician, and no fee shall be paid by the State or any county for such services.

"SEC. 9. That this act shall be in force from and after its passage."

This bill was also accompanied by the following petition:

"The undersigned respectfully represent that at a meeting of the State Medical Society of Arkansas, held at Little Rock, April 28 and 29, 1886, they were appointed a committee to petition the present General Assembly of Arkansas, and urge the necessity for, and obtain the passage of, an act establishing a State General Hospital in connection with the Medical Department of the Arkansas Industrial University. The necessity for such an institution is so apparent that we feel it is hardly necessary to call the attention of your honorable body to the many benefits that it would confer upon the sick citizens of the entire State. It is proposed to establish a hospital so general in its character that the citizens of every county shalll be entitled to the full benefits of such an institution. That diseases of a chronic and surgical nature can be better treated in one large institution having all the appliances and facilities that are too expensive to be furnished by each county for its own invalids is a fact that cannot be questioned.

"While it is proposed to have the institution under the control of the State, it is at the same time intended to be so general that no section or county or class of citizens shall have any advantages not granted to all alike.

"The expense of treating patients in one institution would be much cheaper than under the present state of affairs where they are scattered over the whole State in unprovided and neglected poor-houses, and receive only such occasional treatment and care as the charitably disposed people of the different communities feel able to contribute, and which in most cases results in lengthening sickness and death, instead of prompt, efficient treatment, resulting in speedy recovery or much improvement.

"The benefits to the young men of the State who are seeking a medical education at a home institution would be very much increased. And, finally, the passage of the proposed bill would give the very best aid to a branch of a State institution which has never asked or received one cent of aid from the State.

"In conclusion, we desire to state that this proposition was originated and has been carried thus far without the knowledge or assistance of the faculty of the Med-

ical Department. It is believed to be for the benefit of the whole State, of the utmost advantage to one of our most important State institutions, and in that spirit we memorialize your honorable body, in behalf of the 250 members of the State Medical Society, whom we have the honor to represent.

"Respectfully submitted, W. H. HAWKINS,
"W. P. HART,
"D. C. EWING."

On the 26th day of January, at 12 m., we again went to the faculty and submitted the above petition and bill for their approval or disapproval, and it was thought by them, as well as by your committee, that it was all that could be desired. We labored very earnestly for the favorable reception of this bill by the legislature, and had some hopes of its being adopted. Senator Stayton undertook to chaperone it through the senate; but alas, for vain mortals' hopes, and the old adage of there being many a slip between the cup and the lip, found that too true to all our anticipated success. Senator Stayton introduced it on the 28th of January, when it was referred to the Committee on Charitable Institutions, and emerged from this committee without recommendation *pro* or *con* on the 17th of February. Stabbed in the back by one of the doctors of the legislature, it lies to-day dead upon the table, and could an innate piece of parchment speak all it could say would be "*et tu brute.*"

Writing to the chairman of your committee, under date of March 17, 1887, Hon. J. M. Stayton says:

"Yours of the 10th inst. came duly to hand. The constant pressure upon my time since has prevented an earlier reply. The medical college hospital bill was incontinently squelched upon its first appearance. This was some weeks ago. Your average solon can't comprehend so vast a charity; an 8x10 log cabin, in which county poor are usually huddled together, fills the measure of his ambition in that direction. I feared as much when I introduced the bill. I look forward to the last days of the session as a happy deliverance from a condition that is fast becoming almost too galling for endurance, and I never so fully appreciated Howard Payne's inspiration that set the world to singing "Home, Sweet Home," before, in all my life; and I need not tell you I sincerely regret our failure. Perhaps a better time will come; till then, hope, on and believe me,

"Very truly yours, etc., J. M. STAYTON."

Your committee has deemed it proper to incorporate the above letter in their report, for a two-fold reason:

First. We learn from it the well-educated, unbiased and philanthropic mind can comprehend such vast charities.

Second. That hoodlums cannot see such things, and in their mind's eye revert back to the effete county poor-house and farm, with its squalidness and wretchedness, and its inhumanity to man, and are content.

The broad principles of humanity and charity underlying this bill were too comprehensive for them. The aid to science and the struggles of our self-sacrificing physicians glamoured before their eyes and they saw nothing in it but the expendi-

ture of dollars and cents. The proud, foolish and penny-wise principle was their motto, and hence the bill sleeps the sleep of death.

An effort was made by the committee on practice of medicine raised by the house of representatives to repeal the medical practice act of March 21, A. D. 1881, and included in Mansfield's Digest, sections 4641 and 4654, inclusive, but this also failed.

As far as this act goes it is a failure to protect the people against quackery, and for the following reasons:

First. It did not contemplate the prevention of quackery within the State, because it was not intended to interfere with the nefarious business of the quacks already here.

Second. Because all manner of men have been allowed to register under the law, such as druggists, and even farmers, who had never thought of practising until the law was passed, have proved up a five years' practice by his neighbor, and have been allowed to register.

Third. Because by reason of the power given county courts to appoint boards, the law practically is inoperative and is not properly enforced. Druggists, farmers and others evade the law by simply charging for their medicine—not for their services—and whilst the health, prosperity and morality of the community suffer, the respectable practitioner of medicine is avoided and held up as a cormorant.

Suffice it to say, gentlemen, your committee saw nothing for the people of the State in the last legislature which tended to protect the lives, the health, the morals and the property of the people of the State from the shameless depredation of these adventurers which infest our State, by reason of the operation of the medical practice act of March 21, 1881.

Your committee would, however, recommend the continuance of the committee on medical legislation, and let us never desist until we have redeemed the State from quackery and have established ample hospital accommodations for the pauper sick of our State. All the instincts of humanity demand this of us.

Respectfully submitted,

W. H. HAWKINS,
Chairman.
D. A. LINTHICUM,
W. P. HART,
D. E. BYRD,
D. C. EWING.

MEDICAL ORGANIZATION.

A. N. CARRIGAN, M. D.,
WASHINGTON.

The republic of medicine, as organized in this country, in its representation is modeled after our government, in its scientific department after the British Medical Association. That there is political management in every medical organization, from the humblest county society to our highest national tribunal, no one acquainted with its workings will doubt for a moment. In our republic political influence is not obtained as in national or state republics, nor is it rewarded in the same way. To obtain influence, one must by patient, constant toil build up and round out a professional character that rises above his fellows, or do something successfully out of the common routine work, discover some new method or some new remedy, or some new application of an old one; or in other words, he has most influence in this republic who does the most and best work. Our rewards do not come to us in the same way as the politician's; his comes directly, ours indirectly, if at all. Honors in our republic are nearly always justly placed; the same can not be so uniformly said of political republics. But it is of county or municipal organizations I am expected to speak to-day, the starting point in our medical republic, the source from which all of our power is derived. Too many medical men think too little or too lightly of their County Society, forgetting the fact that it is the very fountain of power and greatness. No man arrives at distinction or honor in our state and national councils who has not served his time in some county or municipal society. It is the school for the young physician to learn in, and it is only a matter of time for him to arrive at local distinction if he will carefully study and report to his county medical society all of his cases of interest. It stimulates him to study and enables him to become accurate in diagnosis and successful in treatment. Mind needs the friction of opposing mind if it ever grows and develops into any thing more than it was when it started. Too many of our young physicians are like young wasps, as big when they are hatched as they ever get to be afterwards. This state of affairs is a reproach to the well qualified young men that come into our State every year graduated from first-class medical schools. Do these young men drop into the Sleepy-Hollow ways of the ancient Arkansas doctor? If they do not where is the evidence to the contrary? Have we any increase in the number of County Medical Societies? With a few honorable exceptions we have no evidence of progress in scientific work, even in the old societies, much less of the formation of new ones or of their work. How much of this state of affairs is chargeable to the older members of the profession I will not pretend to say, but one thing we all know is certain, and that is, if we do not bring the people by whom we are surrounded up to our standard, we will in turn drop down to theirs.

In a recent visit to a county in this State where no County Medical Society exists, in the presence of three old physicians and one recent graduate, I took occasion to urge upon them the importance of organizing and keeping up a County Medical Society. Their reasons for not doing so were about as follows: First—The great distance that most of them live from the county town; it would be impossible to get any considerable number of them to meet at the appointed time. Second—The loss of time, and the necessary evil that might result to their patients. Third—The large number of under-graduates that they were obliged to meet in consultation, and that could not be admitted into a County Medical Society. Fourth—That there was another class that would make capital out of such meetings for themselves. Fifth—And the last class named was those that used their profession only as a means of making money, and would neither lose time nor spend money to increase their knowledge. Such and like reasoning you will meet with in every county in the State where no medical society exists, with perhaps one other, namely, professional jealousy.

The practice of medicine is one of the most responsible callings that a man can embark in, and there must be something essentially faulty in the make-up of that physician who will not make every reasonable sacrifice to obtain knowledge for the good of his patients. The grave, unfortunately, covers up the victims of his ignorance. If he left his victims strewn along the highway as those of the careless and incompetent railway engineer, public opinion would force him to learn or quit. If we can neither provoke these our brethren to wrath or good works we will have to leave them to themselves, that they may die as they have lived, to themselves. There is another class of physicians who think that medical societies should be nothing but a kind of trades-union, the business of which should be the regulation of fee bills and the exchange of black lists. Men in all callings and professions sell for what they are worth. Young and inexperienced physicians can afford to take less than older and more experienced ones. Yet uniformity in fee bills in every community amongst all the fellows is greatly to be desired, but if any one chooses to be a Cheap John it will only be a matter of time when it will be his ruin and downfall. Usage is law, and he who attempts to depart from it will find it hard work and more often disastrous than otherwise. The duties of physicians to each other and to the community are plainly set forth in the ethics of our Society, and we would do well to read them over carefully every year and make them the rule of our professional conduct, as much so as we do the bible for our religious walk and conversation.

The business of County Medical Societies is collective and distributive; not money but medical information in a certain district of country. The character, intensity and prevalence of disease, the cause, beginning and spread of epidemics, the prevention of disease, the grandest work that any mortal can be engaged in—the work that makes the physician only a little lower than the angels. Who would not rather have been a Jenner than a Cæsar or a Napoleon? Who would not rather have been a McDowell or a Sims than a Washington or a Lincoln? These discoveries made by our brethren will continue to bless the race as long as science lives or suffering humanity needs

help. The humble country doctor may never be distinguished, but constant, painstaking effort raised a Koch from a country doctor to position of world wide renown. Then let me insist on the young men of our State to lose no opportunity to learn. Take one thing and learn it thoroughly, and then take up something else if you have time, but always recollect that organized effort is the best way to have the light that is in you reflected, otherwise it will be hid under a bushel.

A young friend of mine, two years after he had graduated, concluded that he would visit Europe, but before he started, called on one of the professors of the school in which he graduated for a letter of introduction to a certain distinguished professor in Paris, France. On arriving at Paris he called on the professor and presented his letter of introduction, and the professor invited him to his clinic the next morning, which was gladly accepted, and after going through his wards, lecturing to his class, he took them into the dead house, where a subject was on the table for post mortem. The professor handed my friend the knife and asked him to demonstrate the cause of death of that man to his class. My friend took the knife and examined the heart, lungs and stomach, but found no lesion that would account for his death. He then examined the bowels, and found perforation with ulceration which accounted for his death. And then the professor told him that he had died with typhoid fever. How many young men are there in the State that would have taken the knife in such a presence? yea, or older ones either? My friend said that he thought it was due the professor who had given him the letter to this distinguished professor in Paris that he should make the post mortem.

Young men, graduates of respectable medical schools, who have located in our State, I say that it is due the professors who have graduated you in medicine to organize a County Medical Society in the counties in which you live if there is not one already organized, so that you may have the opportunity to demonstrate to your medical brethren that you know something and thereby reflect credit on the schools that graduated you; or will you still do like the owls in our swamps, look uncommon wise and say nothing? Let us hope not, but trust that the young men in all of the counties of the State will do as they have done in Hempstead county, all gone to work in earnest, bringing up something at every meeting on some medical subject. That this state of affairs in my county is due to the zeal, prudence and perseverance of the older members is true; yet, what is done in one county can be done in all the counties of the State, is the point which I wish to make. If one or two physicians in each county could be found with sufficient love for their calling to take hold of an organization and use reasonable prudence and zeal, it would not be long until we would have a well-organized medical society in each county in the State. Then we would have no more reports such as "pure cussedness," "indifference," "too many under-graduates," etc.

We complain of our legislators, and one of our distinguished presidents recommended that we abolish our committee on medical legislation. "Like priest like people," is true, and if we do not educate the people up to what we want we will never get it. If we sit upon the high stool of professional dignity and look wise and say nothing we will never get anything. How many years did we agitate the

necessity of a lunatic asylum before we got a legislature that would make the appropriation necessary to build one? But now we have one, and I would ask if it is any trouble to get our legislators to make all needful appropriations for that as well as all the other charitable institutions of the State? Educate the people up to it and the legislature will be forced to do it. The physicians built the asylum of the State; the legislature did not do it. They only made the appropriations after the people demanded it. The physicians of the counties can shape medical legislation before the members leave home. It is the people at home they are afraid of and not the men they meet here, hence one word from the physician at home will do more good toward shaping medical legislation than all the speeches that can be made here. United, we stand. In union is strength, power and influence. If we cannot unite the profession in the different counties, how can we expect the legislature, composed of such a diversity of capacity and so many conflicting interests, to unite on any measure that would protect the people from the soulless, ignorant charlatan, or from the unseen dangers that surround them that are more potent for evil than those that are seen.

Finally, we are all gleaners in this field of knowledge; some of us are bringing our sheaves to a common store house, whilst others are throwing down the fruits of their labor just where they reap. Are they building wisely? Are they building for the future? Nay, they are like the man in the bible who hid his Lord's money.

"Do noble things, nor dream them all day long,
And so make life, death, and that vast forever,
One grand, sweet song."

MEMBERS

OF THE

STATE MEDICAL SOCIETY OF ARKANSAS.

COUNTY.	NAME.	POSTOFFICE.	ALMA MATER.
Baxter	Brewer, A J	Mountain Home	University Louisville
Benton	Bills, A. R	Maysville	Kansas City University
Benton	Floyd, J R	Bloomfield	Memphis Hospital Medical College
Benton	Hurley, T. W	Bentonville	University Louisiana
Boone	Kirbey, L	Harrison	St Louis Medical College
Boone	Vance, A. J	Harrison	Vanderbilt University
Clark	Cargile, C. H	Okolona	Jefferson Medical College
Clark	Dale, J. R	Arkadelphia	Jefferson Medical College
Clark	Moore, A. B	Gurdon	Vanderbilt University
Clark	Wallis, J. C	Arkadelphia	Jefferson Medical College
Clark	Wallis, R. S	Arkadelphia	Jefferson Medical College
Cleveland	Stanfield, C. A	Toledo	Memphis Medical College
Columbia	Hawkins, J. F	Mt. Holly	University Louisville
Conway	Sayle, W A. C	Morrilton	Kentucky School of Medicine
Conway	White, G. B	Morrilton	University Tennessee
Craighead	Kitchens, J. H	Jonesboro	University Maryland
Crawford	Dibrell, J. A., Sr	Van Buren	University Pennsylvania
Crawford	Hynes, Geo. F	Van Buren	Cleveland Medical College
Crawford	White, L. C	Van Buren	Maine Medical School
Desha	Carroll, D, C	Dumas	Medical Department A. I. U.
Faulkner	Brown, G. S	Conway	Bellevue Hospital Medical College
Franklin	Amis, W A	Ozark	Bellevue Hospital Medical College
Franklin	Blackburn, J. F	Ozark	Vanderbilt University
Franklin	Turner, H. H	Ozark	Jefferson Medical College
Franklin	Weaver, E. R	Venta	Missouri Medical College
Garland	Fordyce, J. A	Hot Springs	Chicago Medical College
Garland	Franklin, S W	Hot Springs	University New York City
Garland	Gaines, J. H	Hot Springs	University Louisiana
Garland	Jelks, J T	Hot Springs	University Nashville
Garland	Keller, J M	Hot Springs	University Louisville
Hempstead	B'Shers, S. L	Fulton	University Louisville
Hempstead	Booker, T. J	Columbus	University St, Louis
Hempstead	Boyce, M. C	Hope	University Louisiana
Hempstead	Carrigan, A. N	Washington	South Carolina Medical College
Hempstead	Carrigan, S. M	Washington	Missouri Medical College
Hempstead	Hart, W. P	Washington	Jefferson Medical College
Hempstead	McCaskill, A	Wallaceburg	Mobile Medical College
Hempstead	Stamps, J. A	Wallaceburg	University Louisville
Hempstead	Wilson, R. M	Columbus	Missouri Medical College
Hot Spring	Reamy, S	Malvern	University Louisville
Hot Spring	Robertson, J J	Malvern	Atlanta Medical College
Howard	Barner, W. B	Nashville	University Nashville and Vanderbilt.
Howard	Corn, J. S	Center Point	Vanderbilt University
Howard	Maxwell, D	Nashville	Cincinnati Medical College
Howard	Dickinson, Putnam	Mineral Springs	Missouri Medical College
Howard	Draper, T. J	Mineral Springs	University Louisville
Independence	Case, J. W	Batesville	Jefferson Medical College
Independence	Ewing, D. C	Batesville	University Louisville
Independence	Hardister, H. N	Victor	Vanderbilt University
Independence	Hathcock, A. N	Hickory Valley	Missouri Medical College
Independence	Hodges, R. H	Moorefield	University Louisville
Independence	Hodges, T. B	Sulphur Rock	University Louisville
Independence	Jeffrey, Finis	Batesville	University Louisville
Independence	Kennerly, J. H	Akron	University Louisville
Independence	Lawrence, W. B	Batesville	Jefferson Medical College
Independence	Lawrence, W. M	Batesville	Missouri Medical College
Independence	Vaughan, S. L	Sulphur Rock	University Louisville
Independence	Weaver, M. C	Jamestown	Louisville Medical College
Izard	Baxter, E. A	Melbourne	University Louisville
Izard	Watkins, Jno. M	La Crosse	University Nashville
Izard	Woods, T. J	La Crosse	Kentucky School of Medicine
Jefferson	Holmes, L	Pine Bluff	University Pennsylvania

COUNTY.	NAME.	POSTOFFICE.	ALMA MATER.
Jefferson	Loving, A. B	Pine Bluff	University Louisville
Jefferson	Mills, D. S	Pine Bluff	Memphis Medical College, 1851
Jefferson	Orto, Z	Pine Bluff	Miama Medical College
Jefferson	Simmons, J. F	Pine Bluff	Jefferson Medical College
Jefferson	Tobin, C P	Pine Bluff	University Louisiana
Johnson	Mitchell, J. P	Clarksville	Jefferson Medical College
Johnson	Montgomery, W. C.	Spadra	University Nashville
Johnson	Robinson, C E	Clarksville	Jefferson Medical College
Johnson	Stevenson, Thos.	Berlin	Medical Department A. I. U
Johnson	Zachary, B. S	London	Medical Department A. I. U
Lawrence	Coffman, J. H	Black Rock	University Louisville
Lawrence	Hatcher, W. J	Imboden	University Nashville
Lawrence	Henderson. A. G	Imboden	Missouri Medical College
Lawrence	Minor, J C	Walnut Ridge	University Virginia
Lawrence	Rector, N	Smithville	Nashville College Med. and Surgery
Lawrence	Watkins, W. J	Walnut Ridge	Cincinnati College Med. and Surgery
Lee	Drake, D. S	Marianna	Bellevue Hospital Medical College
Lee	Hayes, J. W	Marianna	Washington University
Lee	McClendon, J W	Haynes	University Nashville
Lee	West, P. C	LaGrange	University Louisville
Lincoln	Taylor, C. M	South Bend	Transylvania University
Little River	Sager, L A	Rocky Comfort	Bellevue Hospital Medical College
Logan	Nichols, T. D	Paris	University Louisville
Logan	Shibley, J S	Paris	University Nashville
Logan	Smith, J. J	Chismville	Memphis Medical College
Lonoke	Folsom, I	Lonoke	St. Louis Medical College
Lonoke	Ross, K. N	Lonoke	University Nashville
Miller	Hawkins, W. H	Texarkana	University Pennsylvania
Miller	Spearman, W. C	Texarkana	University Louisville
Mississippi	McGavock, F. G	McGavock	University Nashville
Mississippi	Prewitt, R. C	Osceola	Kentucky School of Medicine
Monroe	Bates, T H	Brinkley	University Nashville
Nevada	Jordan, J. D	Prescott	University Louisville
Nevada	Pipkin, J. A	Prescott	University Louisiana
Ouachita	Dawson, E. L	Camden	University Louisiana
Ouachita	Hudson, G. W	Camden	University Maryland
Phillips	Burke, F. Noel	Helena	Ohio Medical College
Phillips	Byrd, D E	Marvel	Richmond Medical College
Phillips	Horner, A. A	Helena	University Pennsylvania
Phillips	Hughes, A. J	Barton	Louisville, Kentucky
Phillips	Linthicum, D. A	Helena	St. Louis University
Phillips	Linthicum, T. C	Helena	Kentucky School of Medicine
Phillips	McAlpine, Geo	Helena	University Maryland
Phillips	Vineyard, J. H	Vineyard	Iowa University
Pike	Hancock, N. C	New Hope	University Nashville
Pike	Thomason, N. T	Murfreesboro	Medical Department A, I. U
Polk	Baker, W. R	Dallas	Cincinnati Medical College
Pope	Drummond, R. M	Russellville	Vanderbilt University
Pope	Hill, W. H	Russellville	University Louisville
Pope	Howell, Andrew R.	Russellville	Jefferson Medical College
Pope	Kirkscey, C. L	Dover	Atlanta Medical College
Pope	Ruff, D. P	Dover	Nashville Medical College
Prairie	Hipolite, W. W	Devall's Bluff	University Michigan
Pulaski	Bentley, E. (U.S.A.)	Little Rock	N. Y. College Phys. and Surgeons
Pulaski	Bond, J B	Little Rock	St. Louis Medical College
Pulaski	Breysacher, A. L	Little Rock	Missouri Medical College
Pulaski	Christian, R. B	Little Rock	University Virginia
Pulaski	Crenshaw, J. C	Little Rock	University Louisville
Pulaski	Cross, E	Little Rock	University Louisiana
Pulaski	Deuell, E. V	Little Rock	University Louisville
Pulaski	Dibrell, E. R	Little Rock	University Pennsylvania
Pulaski	Dibrell, J. A., Jr	Little Rock	University Pennsylvania
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Pulaski	Hooper, P. O	Little Rock	Jefferson Medical College
Pulaski	Jennings, R. C	Little Rock	Maine Medical College
Pulaski	Lenow, J. H	Little Rock	Jefferson Medical College
Pulaski	Lindsey, R. W	Little Rock	University Nashville
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Pulaski	Nash, C. E	Little Rock	N. Y. College Phys. and Surgeons
Pulaski	Prather, D. J	Little Rock	Louisville Medical College
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Pulaski	Thompson, Wm	Little Rock	University Louisville
Pulaski	Walter, J R	Little Rock	Vanderbilt University
Pulaski	Watkins, C	Little Rock	Jefferson Medical College
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Sebastian	Booth, J. T	Enterprise	Louisville Medical College
Sebastian	Dunlap, A	Fort Smith	Transylvania University
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Sebastian	Hatchett, B	Fort Smith	Vanderbilt University, La
Sebastian	Kelleam, J. M	Fort Smith	University Louisville
Sebastian	King, R. B.	Fort Smith	University Louisiana
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ABBEY, S. F. R., Helena 1875
ALEXANDER, E. H., Pine Bluff 1884
ALEXANDER, O., Rocky Comfort 1880
BENNETT, J. E., Fort Smith 1884
BLACKBURN, E. M., Ozark 1880
BLOCHER, C M , Texarkana 1879
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COWLING, J. S., Mineral Springs 1885
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CRUTE, H. P., Chicot 1876
DALE, E. T , Texarkana 1881
DAVIDSON, BENJAMIN H , Evening Shade 1877
DUNGAN, D. H , Little Rock 1883
DUVAL, E. R., Fort Smith 1885
EASLEY, E. T., Little Rock 1878
GRAY, E. W., Newport 1877
HARRELL, W. C , Indian Bay 1877
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HOBSON, O. A., Hot Springs 1885
HOLCOMBE, J. M., Pine Bluff 1880
HOLMES, R. R., Melford 1879
HOPTON, J. G. S., Pendleton 1879
JONES, S. W., Pine Bluff 1879
JONES, J. W., Fayetteville 1886
MCALPINE, W. W , Helena 1885
MCDOWELL, DRAKE, Hot Springs 1882
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PANGBURN, D., Judsonia 1880
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STINSON, J. A., Jacksonport 1881
TERRY, W L., Little Rock 1876
THOMPSON, J. B., Eldorado 1885
TREZEVANT, R. B., Des Arc 1878
UPSHAW, WILLIAM T., LaGrange 1878
WARD, W. T., Des Arc 1876
WATKINS, W. H , Newport 1878
WITHERSPOON, J. P., Little Rock 1883

NOTICE.

NEXT MEETING.—The Thirteenth Annual Session of the State Medical Society of Arkansas will be held at Fort Smith, Wednesday, Thursday and Friday, April 25, 26 and 27, 1888, commencing on Wednesday at 10 a. m.

SEP 1888

TRANSACTIONS

OF THE

STATE MEDICAL SOCIETY

—OF—

ARKANSAS.

FORT SMITH, 1888.

TRANSACTIONS

OF THE

STATE MEDICAL SOCIETY

OF ARKANSAS.

FORT SMITH, 1888.

LITTLE ROCK:
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1888.

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Third Vice-President..... B. HATCHETT, M. D., Fort Smith.
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ARRANGEMENTS

Z. Orto, Pine Bluff.
Committee to be selected by the [illegible]

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PUBLICATION.

L. P. GIBSON, *ex-officio* Chairman.

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P. O. HOOPER, D. A. LINTHICUM, J. M. KELLER.

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STATE MEDICAL SOCIETY

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necessity of a lunatic asylum before we got a legislature that would make the appropriation necessary to build one? But now we have one, and I would ask if it is any trouble to get our legislators to make all needful appropriations for that as well as all the other charitable institutions of the State? Educate the people up to it and the legislature will be forced to do it. The physicians built the asylum of the State; the legislature did not do it. They only made the appropriations after the people demanded it. The physicians of the counties can shape medical legislation before the members leave home. It is the people at home they are afraid of and not the men they meet here, hence one word from the physician at home will do more good toward shaping medical legislation than all the speeches that can be made here. United, we stand. In union is strength, power and influence. If we cannot unite the profession in the different counties, how can we expect the legislature, composed of such a diversity of capacity and so many conflicting interests, to unite on any measure that would protect the people from the soulless, ignorant charlatan, or from the unseen dangers that surround them that are more potent for evil than those that are seen.

Finally, we are all gleaners in this field of knowledge; some of us are bringing our sheaves to a common store house, whilst others are throwing down the fruits of their labor just where they reap. Are they building wisely? Are they building for the future? Nay, they are like the man in the bible who hid his Lord's money.

"Do noble things, nor dream them all day long,
And so make life, death, and that vast forever,
One grand, sweet song."

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Clark	Wallis, R. S	Arkadelphia	Jefferson Medical College
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Franklin	Amis, W A	Ozark	Bellevue Hospital Medical College
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Garland	Keller, J M	Hot Springs	University Louisville
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Hempstead	Carrigan, S. M	Washington	Missouri Medical College
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Hempstead	McCaskill, A	Wallaceburg	Mobile Medical College
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Loving, A. B.	Pine Bluff	University Louisville
Mills, D. S.	Pine Bluff	Memphis Medical College, 1851
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Summons, J. F.	Pine Bluff	Jefferson Medical College
Tobin, C P	Pine Bluff	University Louisiana
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Montgomery, W. C.	Spadra	University Nashville
Robinson, C E	Clarksville	Jefferson Medical College
Stevenson, Thos.	Berlin	Medical Department A. I. U
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Hatcher, W. J	Imboden	University Nashville
Henderson, A. G	Imboden	Missouri Medical College
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Rector, N	Smithville	Nashville College Med. and Surgery.
Watkins, W. J	Walnut Ridge	Cincinnati College Med. and Surgery.
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Hayes, J. W	Marianna	Washington University
McClendon, J W	Haynes	University Nashville
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Taylor, C. M.	South Bend	Transylvania University
Sager, L A	Rocky Comfort	Bellevue Hospital Medical College
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Ross, R. N	Lonoke	University Nashville
Hawkins, W. H.	Texarkana	University Pennsylvania
Spearman, W. C	Texarkana	University Louisville
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Pipkin, J. A.	Prescott	University Louisiana
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Byrd, D E	Marvel	Richmond Medical College
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Linthicum, D. A	Helena	St. Louis University
Linthicum, T. C	Helena	Kentucky School of Medicine
McAlpine, Geo.	Helena	University Maryland
Vineyard, J. H	Vineyard	Iowa University
Hancock, N. C.	New Hope	University Nashville
Thomason, N. T	Murfreesboro	Medical Department A. I. U.
Baker, W. R.	Dallas	Cincinnati Medical College
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Hill, W. H	Russellville	University Louisville
Howell, Andrew R.	Russellville	Jefferson Medical College
Kirkscey, C. L.	Dover	Atlanta Medical College
Ruff, D. P	Dover	Nashville Medical College.
Hipolite, W. W.	Devall's Bluff	University Michigan
Bentley, E. (U.S.A.)	Little Rock	N. Y. College Phys. and Surgeons
Bond, J B	Little Rock	St. Louis Medical College
Breysacher, A. L.	Little Rock	Missouri Medical College
Christian, R. B.	Little Rock	University Virginia
Crenshaw, J. C	Little Rock	University Louisville
Cross, E	Little Rock	University Louisiana
Deuell, E. V	Little Rock	University Louisville
Dibrell, E. R	Little Rock	University Pennsylvania
Dibrell, J. A., Jr	Little Rock	University Pennsylvania
George, A. P	Wrightsville	Missouri Medical College
Gibson L P	Little Rock	Jefferson Medical College
Gray, D A	Little Rock	University Pennsylvania
Holmes, J D	Little Rock	College Phys. and Sur., Keokuk, Ia
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Meek, E	Argenta	Kansas City College Phys. and Surg.
Murrell, T. E	Little Rock	University Maryland
Nash, C. E.	Little Rock	N. Y. College Phys. and Surgeons
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Sebastian	Bailey, W. W	Fort Smith	University Michigan,
Sebastian	Booth, J, T	Enterprise	Louisville Medical College
Sebastian	Dunlap, A	Fort Smith	Transylvania University
Sebastian	Eberle, J G	Fort Smith	Kentucky School of Medicine
Sebastian	Hatchett, B	Fort Smith	Vanderbilt University, La
Sebastian	Kelleam, J. M	Fort Smith	University Louisville
Sebastian	King, R. B.	Fort Smith	University Louisiana
Sebastian	Main, J. H. T	Fort Smith	Starling Medical College
Sebastian	Saunders, L L	Fort Smith	Medical Department University Ga
Sebastian	Southard, J. D	Fort Smith	University Louisville
St. Francis	Cummings, J. P	Forrest City	Jefferson Medical College
St Francis	Matthews. W J	Forrest City	University Nashville
St. Francis	Van Patten, P	Forrest City	Iowa University
Union	Goodwin, W. H	ElDorado	University Louisiana
Union	McHenry, M. A	Hillsboro	University Louisiana
Washington	Blackburn, T. W	Boonesboro	Medical Department A. I. U.
Washington	Christian, D	Elm Springs	St. Louis Medical College
Washington	Pollard, T. J	Fayetteville	Transylvania School of Medicine
Washington	Routh, H. L	Boonesboro	Vanderbilt University
Washington	Welch, W. B	Fayetteville	University Nashville
Washington	Yates, W. N	Cincinnati	Missouri Medical College
White	Jelks, J. M	Searcy	University Nashville
White	Jordan, A. C	Beebe	Vanderbilt University

IN MEMORIAM.

ABBEY, S. F. R., Helena 1875
ALEXANDER, E. H., Pine Bluff 1884
ALEXANDER, O., Rocky Comfort 1880
BENNETT, J. E., Fort Smith 1884
BLACKBURN, E. M., Ozark 1880
BLOCHER, C. M., Texarkana 1879
BUFORD, J. S., Marianna 1877
CATHEY, W. L., Alma 1880
COWLING, J. S., Mineral Springs 1885
CRENSHAW, H. F., Marianna 1877
CRUTE, H. P., Chicot 1876
DALE, E. T., Texarkana 1881
DAVIDSON, BENJAMIN H., Evening Shade 1877
DUNGAN, D. H., Little Rock 1883
DUVAL, E. R., Fort Smith 1885
EASLEY, E. T., Little Rock 1878
GRAY, E. W., Newport 1877
HARRELL, W. C., Indian Bay 1877
HAZLEWOOD, JAMES T., Clarendon 1876
HOBSON, A. W., Hope 1882
HOBSON, O. A., Hot Springs 1885
HOLCOMBE, J. M., Pine Bluff 1880
HOLMES, R. R., Melford 1879
HOPTON, J. G. S., Pendleton 1879
JONES, S. W., Pine Bluff 1879
JONES, J. W., Fayetteville 1886
MCALPINE, W. W., Helena 1885
MCDOWELL, DRAKE, Hot Springs 1882
MORGAN, JAMES A., St Charles 1875
PANGBURN, D., Judsonia 1880
PERNOT, H. C., Van Buren 1880
POWE, CHARLES T., Alma 1877
PULLIAM, A. J., Patterson Bluff 1885
REESE, R. M., Cincinnati 1877
RICE, F. H., Helena 1875
STINSON, J. A., Jacksonport 1881
TERRY, W. L., Little Rock 1876
THOMPSON, J. B., Eldorado 1885
TREZEVANT, R. B., Des Arc 1878
UPSHAW, WILLIAM T., LaGrange 1878
WARD, W. T., Des Arc 1876
WATKINS, W. H., Newport 1878
WITHERSPOON, J. P., Little Rock 1883

IN MEMORIAM.

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ALEXANDER, O., Rocky Comfort 1880
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BLOCHER, C M , Texarkana 1879
BUFORD, J S , Marianna 1877
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TREZEVANT, R. B., Des Arc 1878
UPSHAW, WILLIAM T., LaGrange 1878
WARD, W. T., Des Arc 1876
WATKINS, W. H , Newport 1878
WITHERSPOON, J. P., Little Rock 1883

NOTICE.

NEXT MEETING.—The Thirteenth Annual Session of the State Medical Society of Arkansas will be held at Fort Smith, Wednesday, Thursday and Friday, April 25, 26 and 27, 1888, commencing on Wednesday at 10 a. m.

CATALOGUE 1890

TRANSACTIONS

SEP 1888

OF THE

STATE MEDICAL SOCIETY

—OF—

ARKANSAS.

FORT SMITH, 1888.

STATE MEDICAL SOCIETY
ORGANIZED. OCT. 13. 1875.
ARKANSAS.

TRANSACTIONS

OF THE

STATE MEDICAL SOCIETY

OF ARKANSAS.

FORT SMITH, 1888.

LITTLE ROCK:
MITCHELL & BETTIS, PRINTERS.
1888.

CATALOGUED
OCT 16 1890
E. H. B.

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OFFICERS FOR 1888-9.

President ..... EDWIN BENTLEY, M. D.. (U. S. A.), Little Rock.
First Vice-President..... A. J. VANCE, M. D., Harrison.
Second Vice-President..... C. S. GRAY, M. D., Fayetteville.
Third Vice-President..... B. HATCHETT, M. D., Fort Smith.
Fourth Vice-President..... W. H. HILL, M. D., Russellville.
Secretary ..... L. P. GIBSON, M. D., Little Rock.
Assistant Secretary..... Z. ORTO, M. D., Pine Bluff.
Treasurer..... A. L. BREYSACHER, M. D., Little Rock.
Librarian..... R. W. LINDSEY, M. D., Little Rock.

STANDING COMMITTEES 1888-9.

ARRANGEMENTS.

Z. ORTO, Chairman.
Committee to be selected by the Jefferson County Society.

CREDENTIALS.

D. C. CARROLL, Chairman.
L. P. GIBSON, A. L. BREYSACHER.

JUDICIAL COUNCIL.

W. B. WELCH,	D. A. LINTHICUM,	P. O. HOOPER,
J. A. DIBRELL, JR.,	J. G. EBERLE,	T. W. HURLEY,
D. C. EWING,	W. B. LAWRENCE,	W. P. HART.

SCIENTIFIC COMMUNICATIONS.

E. R. DIBRELL, Chairman.
D. S. MILLS, C. P. TOBIN.

renewed interest in the subject by those who were apparently indifferent. The paper has been very favorably commented on by several of the medical journals and I have received numerous requests for it from physicians residing in other States.

Of the four hundred cards sent requesting replies as to whether the correspondents would attend or not, two hundred and one replies have been received. Of these, one hundred and three stated they *would* attend, ninety-seven that they would *not* attend, and one giving the very definite information that the writer was *thinking* of attending the meeting, and was *thinking* of writing a paper, the title of which he has not yet thought of.

I must make my annual complaint about members not replying to inquiries as to whether they will attend the meetings, and repeat what I said in my last report, that without knowing almost exactly the number who will attend, and by what routes, it is absolutely impossible to make satisfactory rates with the railways and hotels. Besides, it is an injustice and great inconvenience to the members residing in the city where the meeting is to be held not to let them know how many to make provision for in their entertainment.

Respectfully,

L. P. GIBSON, M. D., *Secretary.*

The Treasurer read his annual report.

LITTLE ROCK, ARK., April 23, 1888.

Mr. President:

Below I submit my annual statement of the finances of the Society from June 1, 1887, the date of my last report, to this date.

STATEMENT.

1887.			
June 1	—To balance on hand as per report	$168 55	
	To cash received from members since then	475 00	
June 4	—By cash paid Janitor, voucher No. 1		$ 10 00
	By cash paid Secretary, voucher No. 2		100 00
July 2	—By cash paid Mitchell & Bettis, voucher No. 3		69 75
July 13	—By cash paid Int. Nat. Med. Congress, voucher No. 4		50 00
Aug. 1	—By cash paid Wilson & Webb, voucher No. 5		7 15
Sept. 1	—By cash paid Wilson & Webb, voucher No. 6		85
Oct. 8	—By cash paid Press Printing Co., voucher No. 7		225 00
Nov. 1	—By cash paid Wilson & Webb, voucher No. 8		90
Nov. 3	—By cash paid Secretary, voucher No. 9		12 00
1888.			
Jan. 27	—By cash paid Secretary, voucher No. 10		5 00
March 1	—By cash paid Mitchell & Bettis, voucher No. 11		24 25
April 2	—By cash paid Secretary, voucher No. 12		3 00
		$643 55	$507 90
April 23	—To balance on hand	$135 65	

GENERAL STATEMENT.

Amount due from the members to the Society June 1, 1887	$1,515	
Amount due from members admitted at the last meeting	100	$1,615
Of the above amount there has been collected	$ 475	
Leaving a balance from 1887 of	$1,140	
Which, added to the amount due for 1888	$ 800	
Makes the total amount due the Society	$1,940	
From which must be deducted amount due from members deceased, left the State, etc	$ 65	
Leaving a final total of due the Society April 23, 1888.	$1,875	

I respectfully ask that steps be taken by the Society at this meeting to enforce the collection of dues from delinquent members.

Respectfully submitted,

A. L. BREYSACHER, M. D.,
Treasurer.

The report was referred to an auditing committee consisting of Drs. Bentley, Hurley and Carroll.

The Librarian reported all books and papers in his charge in as good condition as when he received them, and promised if elected to the honorable position for another year, to perform his duties faithfully.

The Committee on Necrology submitted its report and it was referred to the Publication Committee.

The Chairman of the Committee on Credentials stated that he had received the credentials of Mr. Weems as a delegate from the State Pharmaceutical Association. The courtesies of the floor were extended to the delegate.

Dr. Murrell introduced a preamble and resolutions in regard to advertisements of quack doctors and quack remedies by the clergy and religious papers. After discussion the matter was referred to a special committee consisting of Drs. Murrell, Welch and Linthicum.

Recess.

SECOND DAY—AFTERNOON SESSION.

The Society met at 2:30 o'clock, the President in the chair.

The courtesies of the floor were tendered to Dr. J. N. Buzbee of Iowa.

The report on Surgery was read by Dr. Hynes, Chairman of the Committee, and referred to the Publication Committee.

Dr. Bentley read his paper entitled "What Asepsis Has Done," and after discussion and a vote of thanks to Dr. Bentley it was referred to the Publication Committee.

Dr. Hurley stated that he had left his paper (Trephining for Removal of Osseous Spiculæ in Fractures of the Skull) at home but he would submit some remarks on the subject.

After discussion Dr. Hurley was requested to finish his paper, and send it to the Secretary for publication.

Dr. Hynes read his paper on "Removal of a Soft Fibrous Tumor from the Parieties of the Abdomen."

After discussion the paper was referred to the Publication Committee.

Dr. Dorr read his "Report of a Case of Chronic Circumscribed Peritonitis with Effusion, treated by Incision and Drainage."

It was discussed and referred to the Publication Committee.

After a lengthy discussion on "Treatment of Empyæma," the Society adjourned.

THIRD DAY—MORNING SESSION.

The Society was called to order by the President at 9:30 o'clock.

The Secretary read the names of the following delegates as constituting the Nominating Committee: Drs. Bills, Green, Reese, Evans, Hart, Case, Carroll, McKennon, Hatcher, West, P. C., Linthicum, Marberry, Murrell, Gardner, McConnell.

Under the head of "Unfinished Business," the Committee on Medical Legislation reported.

After discussion the report was amended by Dr. Welch so as to read as follows:

Resolved, That the present medical law of the State of Arkansas be so amended that there shall be a Medical Examining Board for each Congressional district, consisting of five physicians or surgeons residing in the district. Three of the members of each of these Boards shall be nominated by the Governor and confirmed by the Senate, out of six names, residents of the Congressional district, furnished to the Governor by the State Medical Society, and who shall be practitioners of at least five years standing in the State. The other two members of each Board shall be nominated by the Governor, without suggestion from any medical body and confirmed by the Senate as in the case of the three names furnished by the State Medical Society. The members of said Boards shall hold office for four years, when a re-appointment shall be made.

Resolved, That a State Board, who shall only have power to examine applicants who may have failed before one of the District Boards, shall be appointed in the same manner as the District Boards, three members of which State Board shall be residents at or near the City of Little Rock. And the certificate of capacity from any one of these Boards shall entitle the holder to register and pursue his profession within the State of Arkansas.

Resolved, That these Medical Examining Boards shall examine thoroughly on all branches of medicine, except therapeutics; on this branch they are not to examine candidates.

Resolved, That all physicians or surgeons coming into the State shall register in the county of their residence, upon a certificate from one of these Examining Boards, before being allowed to practice in the State.

Resolved, That the Committee on Medical Legislation be instructed to procure if possible the above amendments to the present medical law of the State by the next Legislature if possible.

Resolved, That all persons practicing the healing art in any manner, or by any device whatsoever, shall be subject to the provisions of this act.

The amended report was adopted.

The Committee on the Address of the President submitted the following report:

Mr. President:

Your Committee on the President's Address would most respectfully report that after a consideration of the matter we feel that in order to begin at once the education of the people, as to what is most desirable in the way of medical legislation, that we cannot better commence than by publishing the very learned address submitted to us.

Therefore be it Resolved, That the press of Fort Smith be requested to publish the same, and ask that it be copied into the various county papers throughout the State, in order that it may, if possible, reach the domicil of every reading man and woman in the commonwealth.

Resolved further, That a vote of thanks be returned to the author for his most exhaustive and scholarly defense of the code of ethics of the American Medical Association which has been adopted as the rule of right for this Society.

D. A. LINTHICUM,
T. E. MURRELL,
L. L. SAUNDERS,
E. BENTLEY,
J. F. BLACKBURN.

The report was adopted.

The special committee appointed to consider the resolutions introduced by Dr. Murrell yesterday reported as follows:

Resolved, That the members of the State Medical Society of Arkansas have for years observed with pain and mortification the patronage given to charlatanism in all its multifarious aspects by the religious press of our country.

Resolved, further and most specifically, That the appearance in religious papers, ostensibly published for the inculcation of truth and morality, of serious homilies on prayer and praise side by side with cures for consumption, cancer, Bright's disease and other incurable ailments, to which an editorial endorsement is often given, as well as secret preparations under the cloak of remedies for disease, but really intended for purposes of fœticide and other immoral uses, largely tends to shake the confidence of the profession of medicine in the integrity and purpose of the managers and editors of such journals.

Resolved, further, That it has been the well known custom of the profession to render services gratuitously to clergymen, which we do not regret nor do we propose to recall, yet we must assert that the frequent occurrence of

endorsements and recommendations of the clergy of peripatetic doctors and advertising charlatans has in many instances been the only reward of our gratuitous services.

Resolved, further, That we are aware that the editors of religious newspapers admit the painful situation in which these advertisements place them, and attempt to excuse themselves by saying that it is necessary to take these advertisements in order to obtain means to conduct their papers; but, in the language of orthodox theology, we would say; "Put behind you that damnable doctrine that we must do evil that good may come."

Resolved, further, That, as a Society, we declare that the continued perpetration of the above offenses by some of the clergy and religious press brings harm to the bodies of their constituency, and damages materially their influence upon the thinking class of the medical profession.

Resolved, That the Secretary be instructed to furnish copies of these resolutions to the religious and medical press of the United States, to the American Medical Association and to the State Medical Societies, soliciting their co-operation in bringing about a correction of these grievous and palpable errors. Respectfully submitted,

T. E. MURRELL,
W. B. WELCH,
D. A. LINTHICUM,
Committee.

The report was adopted.

The special committee on the Treasurer's report, reported as follows:

Mr. President:

We, the Auditing Committee, respectfully report that we have carefully examined the report of Dr. A. L. Breysacher, Treasurer, and find it correct. We also recommend the adoption of the following amendment to the Constitution: Add to Art. 10, Sec. 2, to read as follows:—

Any member who fails to pay his annual dues for two years shall be notified by the Secretary to appear before the Judicial Council at the next meeting of the Society, and failing to appear or make adequate defense, shall be dealt with by the Society in accordance with the decision of the Judicial Council.

EDWIN BENTLEY,
THOS. W. HURLEY,
D. C. CARROLL,
Committee.

The report was adopted and the amendment lies over for one year.

The Committee on Necrology submitted their report.

At the conclusion of the reading of the report eulogistic remarks were made upon the death of the deceased members and on motion of Dr. Welch the Society agreed to wear a badge of mourning for thirty days, and as a further mark of respect for the deceased Ex-Presidents, it was ordered that a separate memorial page be given to each in the annual transactions.

Dr. Hurley read the address of the Committee on Gynecology, the discussion of which was postponed until the afternoon session.

Dr. Welch offered the following:

Resolved, That all members intending to read papers at our annual meetings shall notify the Secretary of their purpose at least thirty days before the beginning of the session.

Resolved, That any member who shall notify the Secretary as above and then fail to comply with the promise, such failure shall be considered a discourtesy to this Society.

The resolution was amended so as to make it necessary for members who intend to read papers to forward them, or copies, to the Secretary at least fifteen days before the day on which the meeting will begin.

The resolution as amended was then adopted.

Recess.

THIRD DAY—AFTERNOON SESSION.

The Society met at 2:30 o'clock, and was called to order by the President.

Dr. Hipolite offered the following amendment to the Constitution:

Insert in Art. 3 the following paragraph: "In counties where there are one or more permanent members of this Society, but not a sufficient number to constitute a County Society, one such permanent member may have a vote in the proceedings of this Society, and a place on the Nominating Committee."

Lies over for one year.

The address on Gynecology was discussed and referred to Publication Committee.

Dr. C. S. Gray read a paper on "Talliaferro's Treatment of Uterine Displacements," which, after discussion, was referred to the Publication Committee.

The Secretary read for Dr. Bond, who was absent, his paper entitled "The Office of Coroner should in all cases be filled by a Physician."

It was discussed and referred to the Publication Committee.

Dr. J. A. Dibrell, Sr., in lieu of a written report, submitted some remarks on the subject of Medical Education.

On motion, Dr. Dibrell was requested to reduce his remarks to writing and furnish them for publication in the transactions.

Dr. Vance read his paper on "Biliary Calculi."

It was discussed and referred to the Publication Committee.

Dr. Murrell read his article on "Rhinal and Pharyngeal Diseases Practically Considered." After discussion the paper was referred to the Publication Committee.

The paper by Dr. Jennings on "One of the Maternal Destociæ" was read by title (the author being absent) and referred to the Publication Committee. The paper by Dr. Minor on "Ergot in Congestion" took the same course.

The Nominating Committee reported as follows:—

Mr. President:

Your Committee on Nomination of Officers would respectfully offer as the result of their deliberations the following report:

President—Edwin Bentley, M. D. (U. S. A.)
First Vice-President—A. J. Vance, M. D.
Second Vice-President—C. S. Gray, M. D.
Third Vice-President—B. Hatchett, M. D.
Fourth Vice-President—W. H. Hill, M. D.

Secretary—L. P. Gibson, M. D.
Assistant Secretary—Z. Orto, M. D.
Treasurer—A. L. Breysacher, M. D.
Librarian—R. W. Lindsey, M. D.
Next place of meeting, Pine Bluff. Time of meeting to be fixed by the Secretary.

Your committee would further recommend that an honorarium of $150.00 be voted our most efficient Secretary for his very laborious and well-performed duties.

D. A. LINTHICUM, *Chairman.*
T. E. MURRELL, *Secretary.*

Dr. Hurley offered resolutions thanking the physicians and citizens of Fort Smith, the Fishback Guards, the Missouri Pacific and the 'Frisco Railways, the local press and E. Simpson & Co. for kindnesses and attentions.

The resolutions were unanimously adopted.

The retiring President thanked the members of the Society for their indulgence during his tenure of office and for the honor they had conferred upon him. He appointed Drs. Breysacher and Hurley to conduct the President elect to the chair.

On assuming the chair President Bentley spoke at length, thanking the Society for the honor conferred upon him.

A motion to adjourn having been carried, the President declared the Society adjourned until the next annual meeting.

L. P. GIBSON, M. D.,
Secretary.

ADDRESS OF THE PRESIDENT,

REPORTS OF STANDING COMMITTEES

AND

SCIENTIFIC COMMUNICATIONS.

ANNUAL ADDRESS OF THE PRESIDENT.

W. P. HART, M. D., WASHINGTON.

Ladies and Gentlemen and Members of the State Medical Society of Arkansas:

On behalf of the Committee of Arrangements I greet each and all of you with a hearty and cheerful welcome. To my brethren and fellows of the Society I offer my acknowledgments and thanks for the great honor conferred upon me by my selection as your president for this our thirteenth annual session. My grateful appreciation of the honor is enhanced and strengthened by the reflection that I neither sought nor desired the office. Following the lead and inclination of my own feelings I would much prefer to occupy a private place among you upon the floor, and that your partiality had selected another better fitted and qualified to discharge the duties of presiding officer. I can promise you only this: That, relying upon your indulgence and forbearance, I will discharge the duties of the office to the best of my ability.

Since our last meeting another year has been added to the irrevocable past. It has not been barren of successful efforts to increase and enlarge the boundaries of that priceless knowledge that shall add to the duration and value of human life and elevate humanity to the highest grade of moral, intellectual and physical grandeur.

The past year has witnessed the death of some of our most punctual and prominent members. W. H. Hawkins, A. N. Carrigan and D. E. Byrd, two of them ex-presidents of this Society, and all of them most zealous and devoted members. "They have answered the higher roll call;" they have entered the invisible silence which few can contemplate without awe and reverence, but which so many, weary of life's years and burdens, welcome with peaceful hope. These dear names will not soon be forgotten by us, for they are indissolubly connected with the State Medical Society. "Having made their best offerings at the shrine of the profession, they then took their burden for a pillow and laid down by the wayside to sleep that dreamless sleep that awakes in glorious immortality. Peace to their precious ashes."

By their death we are taught the too often forgotten truth that doctors, like all other men, are mortal; that the best skill, the greatest usefulness, the largest fame, cannot evade the great law, "dust unto dust, ashes unto ashes." Success and failure, sunshine and cloud, have been weaving the warp and woof of individual life. The year brought disappointment to many, while others were made glad by hopes fulfilled. But what growth in professional skill and knowledge; in beauty and strength and moral character; in noble thought and generous feeling, has the year brought to each of us? "It not unseldom happens that the school boy, returning home, eagerly measures his

heighth by the pencil mark made on the wall a year ago, and rejoices at the two inches or more added to his stature." Is it not well for us, who are children of a larger growth, to measure from year to year our increase in moral and intellectual development? Mind may grow although the body becomes old and feeble, therein giving promise and prophecy that this earthly life is not all of man. To some the year brought weary, wasting sickness, and from others it took away loved ones, the light and joy of our homes, filling the heart with a sorrow unutterable, inconsolable and inanimate forms, once radiant with all grace and beauty, were laid in what faith believes is God's field, sown with the seed of the resurrection. But farewell to the past year with its successes and disappointments, its gladness and griefs, its crowns and crosses, its laurel and cypress. Another year comes to wed our life, ours "until death us do part." For some the parting will be by individual death, but unto most of us the year will die. We may crown ourselves with rose-buds ere they wither, but let us crown our lives with good deeds, make the world wiser and better for our having lived in it, help, each in his own way, with full zeal and power, in enlarging professional knowledge, in lessening human suffering and in lengthening human life.

The success of our Society meetings depends largely upon the programme of business as arranged by our most efficient and worthy Secretary, together with the local committee, during the hours of recess, and I feel very sure that every member of the Society present will join me heartily in extending to Drs. L. P. Gibson, Secretary, and L. L. Saunders, Chairman, and his distinguished associates on the local committee, many and sincere thanks for the excellent and attractive programme they have so liberally provided for our reception and entertainment. They promise—verily, assure—"a feast of reason and a flow of soul;" and again it will be said, and justly, that the medical profession and the citizens of Fort Smith never do things half way.

At the suggestion of an ardent and devoted member of our Society I have selected as my subject upon which to offer you a few thoughts this evening, "The Regular Physician." The simple announcement of the subject suggests and carries with it the idea that there are those who are irregular physicians. The healing art, as it is generally denominated, is so old that authentic history fails to fix its date or origin. It reaches back to a period beyond which the memory of man runneth not to the contrary and of which we have no historical data. Its date and origin are to be fixed and explained more from tradition, legends and inference than from history. With the exception of the priestly offices and the professions and occupations springing directly out of the physical wants of man, it is quite probable that it is the most ancient of all. As man has ever been mortal, and liable to fall sick, suffer and die, it was most natural that he should seek relief from these ills. Whether in the early ages the duties of the physician entered into and made up a part of the duties of the priestly office we are unable to tell, but the beginning of what is denominated

the historical age found the practice of medicine entirely in the hands of the priests. There are two classes of legends and opinions relating to this subject. The first, which we find as a tradition everywhere prevalent, is that medicine is of divine origin, and thus it is that in early times we find the healing art in the hands of the priests and connected with religious ceremonies. The second opinion includes such explanation as that given by Hypocrates that it arose from experience of the effects of certain foods and injuries. This idea developed at a later period into the doctrine of the Empyrics. Among barbarous and wandering tribes and among nations of antiquity we usually find traces of two systems of medicine and two classes of physicians, one lay and the other sacred, corresponding to the two legends referred to. Among barbarians and ignorant people three explanations of disease and death are found to be prominent. First, the anger of an offended external spirit; second, the supernatural power of a human enemy; third, the displeasure of the dead. The influence of mind upon matter, or the effect of faith and imagination upon the body, is well known and an established fact, and is played upon by some even at the present time, as witness the faith cures and the consulters of mediums for advice. A few years ago was found the earliest medical book known, the date of which has been determined as about 1552 B. C. It is believed to be one of the so-called hermetic books or writings which formed a sort of encyclopedia of science and philosophy written by the priests. It is a compilation of receipts derived from different sources. An eye salve is mentioned, and also a hair tonic, and certain remedies for skin diseases are also introduced. Although it shows that medicine was essentially in the hands of the priests, yet it is entirely consistent with the statement of Heroditus that in Egypt there are many physicians, some for the head, some for the eyes, and others for different parts of the body. So you will perceive that even at that early period in the world's history the idea of specialism had obtained. In China legendary accounts of medicine reach back as far as 3100 years before Christ. The first records of Greek medicine are found in the poems of Homer about 1000 B. C. In the fifth and sixth centuries before Christ, were erected the sixty temples of Æsculapius. Hypocrates, the father of medicine, flourished 460 years before Christ. The theory of medicine then was that of the four humors—the phlegm, the blood, the bile and the atra-bile, being produced by the brain, the heart, the liver and the spleen, respectively.

Passing by one stride over a long period of time, and much that might be interesting and instructive in regard to ancient medicine. We find that in the fifteenth or sixteenth century Paracelsus wrote much; but his writings are worthless except in relation to chemistry, alchemy or magic. And of the modern forms or results of his school, there are three that abide with us until the present time, and are worthy of mention. The first is mesmerism, also called magnetism or hypnotism. The second is homeopathy, founded by Samuel Hahnemann, born 1755. He said there must be a perfect system of

curing diseases easily, swiftly and surely. But there are only three possible methods—diseases must be remedied by something which produces in a healthy body either different effects, or contrary effects, or similar effects; but the use of things which produce different or contrary effects is the ordinary method, which is utterly bad and vicious, since it often kills but never cures. Therefore the only remedy left is that which produces similar effect, and this, which is homeopathy, must be absolutely, infallibly and exclusively true. The third modern result of the teachiugs of Paracelsus is "that for every disease there is a specific remedy connected with it, by the eternal nature of things." The writings and teaching of Paracelsus seem to have been the hot-bed out of which have sprung the "pathies" and "isms" of modern times that have essayed to supplant regular medicine. They are all one-idead and based upon a single dogma or tenet, to the exclusion of the broad, fundamental, and comprehensive teachings that underlie and form the foundation of regular medicine.

In the beginning of the eighteenth century, three prominent medical teachers make their appearance, Stahl, with anamism or vitalism, Hoffman, with materialism, and Boerhaave, by taking something from all the theories and systems, attempted to construct them into one comprehensive body of doctrines. Just here I will state the fact for the information of the ladies, that mention was first made of women physicians in the year 1057, A. D., fixing their appearance as members of the healing art, at a far more ancient period than is generally supposed.

The barber surgeon, Ambrose Pare, accomplished so much and acquired such a reputation for himself that he reflected a respectability upon his profession and his associates that they had never enjoyed before. He was born in 1517. In 1616-19 the times were ripe for a long stride in advance of all former medical discoveries, by the announcement of Sir William Harvey of his discovery of the circulation of the blood. Though opposed to the teachings of Galen, that the veins arose from the liver, and the arteries from the heart, and to the dictates of the church, the time had come for the announcement and establishment of a new scientific philosophy, which was accomplished by the discovery of Harvey, and which marks a new era in anatomy and physiology. Closely following the discovery of the circulation of the blood, came that of the lacteals, absorbents, etc. About the middle of the seventeenth century or a little later, there arose in the medical firmament a star of the first magnitude, Thomas Sydenham, in whom was typified the practical side of medicine. He has been appropriately called the English Hypocrates. But to leave off this line of thought.

Of old, when medicine was yet in its infancy, and made up almost exclusively of theory and hypothesis, when anatomy, physiology and chemistry, together with the natural sciences, were unknown, and when faith and superstition played so important a role in the treatment of diseases without the

guidance of scientific and practical observations and truths, it was but natural that doctors should range themselves into sects and schools, each held together by some tenet or dogma. The schools, as well as the laity, seemed to think it necessary when they found a student who studied medicine as he would any other science, and hence could belong to no sect, but was of the race of seekers after demonstrable truths for all time, to designate him as belonging to the "old school." Irregular schools and physicians in earlier ages, with but a single dogma or tenet as their talisman, sprang into existence from the fact of the thick darkness, ignorance and superstition that overshadowed them; but as soon as new and additional rays of science and knowledge burst upon them, they rapidly disappeared. They were but the natural and legitimate results of the times in which they existed—myths that fled before the first advance of inductive reasoning and study. There are those even of to-day, not only of the populace, but among the profession, who seem to be unable to free themselves from the idea that they belong to some ancient sect or order and must pay obedience to some particular dogma or creed. They seem to have forgotten, or never learned that to comprehend and understand the nature of medical science, a greater variety of knowledge and a more perfect skill in the exercise of the mental faculties are required than in any other professional calling.

Regular medicine, which is the sum total and accumulation of all that has been accomplished in practical, theoretical and clinical studies and investigations in all ages of the past, and illuminated by the lights of natural science, abhors and revolts at the thought of being proscribed and fettered within the narrow and contracted bounds of any dogma or "ism." As a consistent and coherent science, it cannot be crowded into any such contracted limits. It can hold no communication or fellowship with irregular physicians, who base their practice upon an exclusive dogma, and scruple not to reject "the aids furnished by a knowledge of anatomy, physiology, pathology and animal chemistry." Hahnemann, lost and bewildered amidst the mazes of his infinitesimals, and unable to extend his perverted vision beyond the narrow confines of his adopted and wedded dogma, applied to the regular profession the epithet "Allopath," which they spurn and denounce as a libel and a slander. The regular physician, instead of adopting any dogma or creed as his professional "Shibboleth," recognizes the fact that all and every department of knowledge and science are the great store-houses from which he is to draw his inspiration; that regular medicine is compounded of an art and a science. An art founded upon experience alone, and a science to explain what experiment has established; and to be a thoroughly equipped medical man, he must be a thorough philosopher as well. He must be able to "try all things and hold fast to that which is good," ever bearing in mind the fact that unity and continuity of medical art have been maintained, not by theories of disease and medical action, that have chased on each other like jack o'lanterns along the road of time,

but by the facts of observation, honestly and laboriously accumulated from the beginning until now.

Regular medicine has always been cumulative as well as progressive, never inclined to fly off at a tangent after any one single idea or theory, but ever pressing onward and upward to a more perfect science.

In the early twilight of the healing art there were divers schools and sects, but all of them were employing and utilizing honestly and earnestly, all the lights and helps at their command in their different teachings and practices, each pressing forward, but by different roads and methods, to a more perfect knowledge of the human economy and the laws that govern it in health and disease. Different theories and dogmas were entertained and promulgated in the absence of better knowledge and not in spite of it as has been done in later times. Darkness hung like a pall over the medical world; in the absence of light, error prevailed because truth was not known; but when, ever and anon, giant intellects, restless of the fetters forged by ignorance and superstition, soared above the false doctrines and errors of their predecessors and beheld the opening beauties of new light and truth, a long stride was made in the forward and upward march of medical science. A new epoch began, and old theories and dogmas were discarded and gave place to others based upon advanced and increased light and knowledge. Schools and sects that had their origin and existence in a single idea and theory rapidly declined before the brightening rays of demonstrated facts and truth, until but few of them remain at the present time. Such has been the course, not only in medicine, but also in religion, morals, law and politics. Discoveries, improvements and advances in the healing art that have benefited the human family in the preservation of health and the prolongation of life, have not come of side-tracked theories or dogmas that have but one idea as a basis, but from a knowledge of the broad and fundamental facts that form the basis of medical science as set forth in anatomy, physiology, pathology and animal chemistry, together with the observation and correlation of clinical facts.

Many good people seem to think that the mission of the medical profession is or ought to be to discover specific remedies for all the diseases of the human body. They assume that disease is a fixed and determined quantity, and, such being the case, there should be a specific for each and every disease. But no proposition could be further from the truth. There is no fixed standard for either health or disease. The conditions of health in one person would be those of disease in another, and the same remark is true of the same individual under different surroundings. So long as persons are differently constituted, some being more susceptible to the causes of disease, while others are endowed with powers of greater resistance; some possessed of hereditary weakness, while others are blest with an hereditary vigor peculiar to themselves. In a word, just so long as individuals are different in their constitutions, as they are different in their features, just so long will the treatment of disease by

specific remedies prove a failure and delusion. This is the reason that the regular profession ignores all practice based upon exclusive dogma or theory, and stamps its seal of disapproval and condemnation upon the thousand and one patent nostrums with which the world is flooded. Their proprietors advertise them through every imaginable device, and provided they can succeed in inducing you to buy their "only $1 per bottle" preparation, what matters it to them whether it kills or cures, except in so far as it affects the sale of it in the future? Their object is to preserve to themselves your money and not to preserve to you good health and long life. It is a lamentable fact, but nevertheless true, that there are those in the regular profession, clad with the insignia of regular medicine, who follow their calling merely as a trade and resort to unprofessional and crooked means to advertise themselves, and in a thousand ways degrade, so far as their influence extends, the profession from the noble and exalted position it should occupy. Regular medicine, even in its infancy, down through the ages until the present time, has ever been honorable and respected, second to no other calling, except it be that of the holy man of God dealing in spiritual things, in its aspirations and aims to elevate and benefit mankind.

The life of the medical man is one of labor and toil, joy and sorrow, success and failure, rewards and disappointments; but the vastness and variety of the numerous departments of medical science, the nobleness and beneficence of its objects and aims fill those who are worthily and honorably pursuing it with perpetual delight and admiration. If regular medicine and its devotees be such as is outlined above, the question very naturally may be asked, and not without the flavor of a sneer and ridicule, why should they alone require a Code of Ethics for their government and regulation? In answering this question I will employ the words of Prof. Stille: "The moral government of mankind has never been entrusted merely to abstract propositions. The most ancient of moral codes—the Decalogue—maintains its authority unbroken by thousands of years. Their sum and substance are embodied in the two simple precepts of the founder of Christianity, and yet the former was expounded by Moses and his successors into an elaborate system of law, was adopted into Christianity, and thence by all the civilized nations of the world until it has interfused the legislation under which we live at the present day, and not the legislation only, but the usages of society in all ages. Wherever law reigned men who were similarly employed were drawn together into guilds and societies for the common benefit of their members, and in each statutes were enacted which enforced compliance with them by heavy penalties. Even among trades ethical rules existed, and when the learned professions were gathered into their colleges and faculties the privileges and rights of the members were counterbalanced by laws for the regulation of their conduct. The clergy alone were destitute of any specific ethical code, because they were held to be especially under the divine law from which all other codes emanated, and yet

every religious community, of whatever denomination, possessed and still possesses special rules of conduct by which its members must be governed. The necessity of ethical codes arises from the fact, everywhere and always recognized, that either through lack of instruction, or through a defective or perverted moral sense, or through mere heedlessness, men do fail, more or less, to conform their conduct to justice and equity. If men were habitually virtuous and just, unselfish and generous; if they could always see themselves as others see them, and judge their own motives and actions as strictly as they judge of other men's, then indeed there would be but little need of ethical or religious laws, for 'they who are whole need not a physician.' Whoever imagines that he needs it not; that he possesses an inner light that will prevent his feet from straying into paths of error and enable him to decide justly in every conjecture of life, is more to be wondered at for his boldness than admired for his modesty, for he lifts himself into a judgment seat where even Solomon did not dare to sit.

"The relations of a physician to his brethren and to society differ widely from those of other professional men. and, indeed, of all other men whatever. The emulation and rivalry of clergymen and lawyers are, for the most part, displayed before the eyes of the world, so that there is no special opportunity for an evil minded man of either profession to backbite or malign his brethren. Moreover, he knows that if he offends in this manner the court may fix a stigma to his name, or the religious body or the superior upon whom he depends may ruin him by an ecclesiastical condemnation. In the medical profession there is no tribunal which is under such imperative obligations to act or enforce its decisions so rigidly. Hence, one necessity for a code of ethics. But another, already implied, is even more cogent. The physician is the only human being who is habitually admitted behind the scenes of life's stage. He is the depository of secrets to which even the confessor's ear is a stranger —secrets on which station, honor and life itself may depend—and even when not so burdened he is, more than any one else, the confidant and friend of those whose diseases he has healed. He is often the guardian of families who put their trust in him. Is it any wonder, therefore, that he should be jealous of the intrusion of a rival or even of a friend upon his preserves, and that the evil of human nature aiding the rival, should endeavor to supplant him, and that thereout coldness, estrangement, animosity, evil speaking and ill treatment should arise? Or is it surprising that the very confidential relations of a physician to his patients should expose him to the temptations to do wrong, and that he should therefore be warned by written laws of the danger he incurs? These are the grounds out of which the ethical principles of the British and the Code of the American medical profession grew. They are the principles of honor, morality and whatever is best in modern civilization, and therefore should be held in respect by all.

"It is a sign of decadence in the American social and medical systems that

such laws are treated as obsolete or superflous and sneered at as fit only for children in leading strings. Impatience of authority and restraint has perhaps a deeper significance than I have yet intimated. Its name is nihilism and its creed is the denial of whatever has been known as religion; a hatred of all the virtures that are the fruit of faith and the contempt of the obligations imposed by law. It tends to rob man of trust in whatever has been loved or respected in religion, in law, in the love and authority of parents, in the affection and obedience of children; in virtue, in duty, in honor, and in the established order of things that links the present to the past and to the future, making it the offspring of the one and the parent of the other. If it were possible for this egotistic materialism to endure and prevail, the winter of humanity would indeed be near at hand, in which all signs of life, all progress and development, all beauty and nobility would be frozen out of it, and mankind would be reduced to a lower level than the beasts of the field. A world without faith! A world without love! As easy were it to conceive a world without light or heat. In such a chaos what would become of all those institutions that have been established, perfected and reverenced by advancing civilization? Conceive for a moment a community where no song of bell nor inward voice called to worship; where justice had become deaf as well as blind, because every man claimed to be a law unto himself; where there was no balm to soothe, no physician to cure, no right of property, no sacredness of person; where, in a word, mankind has lost whatever has hitherto distinguished humanity."

Look at the picture, it is not overdrawn, and conceive, if you can, of a more deplorable state of affairs than would prevail under the reign of a "higher law" or an "unwritten law," which, being correctly interpreted, means no law at all. Our Code of Ethics is the law enacted by the American Medical Association, the supreme medical body of the nation, for the goverment and guidance of its members in their dealings with each other and their intercourse with their patients and the public. It is the Decalogue of the regular physician. To expatiate upon the excellence of the Code of Ethics would be almost gratuitous, but for the better appreciation of them by the laity I will refer briefly to some of the cardinal doctrines contained in them, such as the duties of the physician to his patients and the obligations of patients to their physicians; the duties of physicians to each other and to the profession at large; professional services of physicians to each other, and so on throughout the entire Code, which contains no law or regulation which is unjust or humiliating to either physician or patient, but in its entirety tends only to the mutual benefit and exaltation of both. While it imposes no hardships as restraints upon the physician, it permits no unfair or ungentlemanly dealing toward his brethren of the profession or his patients. It exerts a most salutary effect upon the minds of the profession, and as they honor themselves by a rigid observance and enforcement of the rules that govern their conduct

toward each other and the public, they elevate their profession in the opinion and estimation of the laity.

While President of the American Medical Association at its meeting in St. Paul in 1882, Dr. Hooper made the averment, and most truthfully, too, that if the Association had done nothing more than adopt the Code of Ethics, it would be entitled to enduring gratitude, and to use the language of Dr. George B. Wood in 1856, "I have no doubt that a full observance of its rules would tend more than any one thing else to maintain harmony in the profession and elevate it in public esteem. I do honestly believe," he continues, "that to a young physician going forth into a life full of moral conflicts the wearing of this ægis would be one of his surest defenses; that next to the Holy Scriptures and the grace of God, it would serve most effectually to guard him from evil." But there have been objections raised against our Code of Ethics upon various, and I might add, frivolous and insufficient grounds. It has been urged that it is old and quaint and made up of senseless and useless platitudes. Such assertions are barely worthy of serious refutation, and they involve merely a question of taste, because the characteristics that are considered objectionable by some have for others a peculiar charm and beauty. Even admitting that some of the rules and precepts of the Code are superogatory and antiquated, no objection can be urged against them upon the ground that they do harm, and if they be acceptable, even to a few, why should they be opposed by any member of the profession? Another objection against the Code of Ethics is this: That to a greater or less extent it has proven inoperative and ineffectual and that its rules cannot be enforced in the absence of penalties for the non-observation of them. But is this a valid objection? Are the principles and teachings of morality to be ignored and discarded because immorality prevails? Are penal laws to be stricken from the statute books because in every instance arrest and punishment do not quickly overtake the offender? Because men do not live up to the scriptural injunction "do unto others as you would that they should do unto you," is this quintessence of religious duty to be expunged from Holy Writ? Are morality, virtue and truth to count for naught because there are those devoid of the noble and high inspirations that prompt the observance and practice of them? Away with such nonsense!

That portion of the Code which is especially objectionable and obnoxious to a small minority of the profession is that relating to consultations with irregular physicians. It reads as follows:

"A regular medical education furnishes the only presumptive evidence of professional ability and requirements, and ought to be the only acknowledged right of an individual to the exercise and honors of the profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent upon personal confidence, no intelligent regular practitioner who has a license to practice from some medical board of known

and acknowledged respectability, recognized by this Association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultation when it is requested by the patient. But no one can be considered as a regular practitioner or a fit associate in consultation whose practice is based upon an exclusive dogma, to the rejection of the accumulated experience of the profession and of the aids actually furnished by anatomy, physiology, pathology and organic chemistry."

For a most complete and comprehensive expose of this section of the Code I will employ the words of the late Prof. Austin Flint, Sr.:

"The excluding clause, which is the last sentence, specifies who is not to be considered as a regular practitioner. No one will surely deny that a practitioner, such as is specified in that clause, cannot be considered as a regular practitioner. The article does not assume to embrace a comprehensive definition of irregular practitioners."

At the time when the Code of Ethics was adopted, the great majority of irregular practitioners were men who not only based their practice on an exclusive dogma, but made no concealment of their rejection of the aids actually furnished by anatomy, physiology, pathology and animal chemistry. They made no pretentions to a knowledge of these branches of medicine, and they scornfully repudiated the accumulated experience of the profession. The language of the article, which applied well enough to most of the irregular practitioners of that time, is not so applicable to those of a later date. It is not affirmed in the wording of the Code that holding an exclusive dogma is in itself sufficient for a practitioner to be considered irregular. The language which refers to an exclusive dogma is to be taken in connection with the remainder of the sentence. Exclusive dogmas have prevailed to a greater or less extent in past times among the members of the regular medical profession. Legitimate medicine places no restrictions on individual opinions. It does not assume to interfere with the utmost freedom in this regard. What is it then, irrespective of a rejection of the accumulated experience of the profession and the aids actually furnished by anatomy, physiology, pathology, and organic chemistry, "which stamps irregular practitioners?" Is it not the assumption of a distinctive name, such as homeopathic, eclectic, botanic, etc., voluntarily assumed as an announcement to the public of the adoption of a system of medicine distinct from and opposed to the practice of the regular profession and on this distinction and opposition basing their claims as practitioners? In order to make my meaning clear let me illustrate it by examples.

Within the recollection of those who have been in the profession for more than half a century, there prevailed simultaneously for a time two dogmas quite opposite in character, each having its ardent partisans. I refer to Broussaism and Brownism. Broussais and Brown were men of genius and

learning, led astray by specious theories. They were honest in their opinions, and they sought to convince members of the profession, not the public, of the truth of their dogmas. Their partisans were often called Broussaists and Brownians, but they never assumed these names as sectarian designations. Now, had they assumed these names, making themselves known to the public as practicing Broussaism and Brownism, and on this ground basing their claims for practice, they would have been irregular practitioners, not entitled to professional fellowship. As it was, they were not without the pale of the regular profession. As a hypothetical example "per contra" suppose a graduate from a medical college of acknowledged respectability, whose professional attainments are sufficient to qualify him for membership of the regular profession, has adopted a sectarian name and allied himself with those who profess antagonism to legitimate medicine. He is therefore, an irregular practitioner, whatever may be the particular tenet which is ostensibly the basis of his practice. Let it be supposed that such a practitioner is desirous of being enrolled in the ranks of the regular profession. I need not say that this profession has no creed, no articles of faith, no traditional doctrines, which it imposes as conditions of membership. It enjoins no limitations of private opinions, it matters not how fantastic. In order that such an irregular practitioner as has been represented may enter the regular profession, no relinquishment of honest convictions is essential.

In addition to educational and moral qualifications, the renouncement of a sectarian designation, of the hostility to the profession thereby involved, and conformity to the rules of medical ethics are alone necessary. It is a calumny to say that persons are excluded from the medical profession on account of peculiar views, however irrational, and that conversion and recantation are essential to professional fellowship. The doors are closed to no one who has received a regular medical education and whose conduct is governed by the rules of medical ethics. Every member of our profession is often made painfully aware, not only of apathy, but misapprehension in the public mind as regards our duties, responsibilities and requirements. The popular diffusion of our Code of Ethics, allowing it to speak for itself, would go far toward the removal of many of the errors in regard to our profession. A valuable service, not less to the public than to the profession, might be rendered by proper efforts in this direction. In this way the public may, perhaps, be led to understand and appreciate the rules of etiquette for which we are often held up to ridicule; our opposition to secret nostrums and patented discoveries or improvements, and our refusal of fellowship with irregular practitioners. Recurring to the last named topic, many suppose that fellowship with those who are not of the regular profession is refused either from a false sense of dignity or from prejudice, regardless of the dictates of humanity. Now the ethical Code, neither in letter nor spirit, inculcates anything in conflict with the humane exercise of our calling. This is a superfluous assertion to those

familiar with the teachings of the Code. The principles of humanity underlie all its practical precepts. Quoting words that have been already quoted, "the good of the patient is the sole object in view."

There are circumstances under which the higher law of philanthrophy, placing in abeyance those rules of the ethical Code as well as of etiquette which, under other circumstances claim obedience, not only permits but commands members of the regular profession to bestow their professional services without stopping to ask whether a practitioner with whom chance has brought them into association, be or be not a "fit associate in consultation." Under such circumstances association with an irregular practitioner, governed by a supreme regard for humanity, involves neither fellowship nor professional affiliation, and it is to these alone that ethical restrictions apply. Let it not be conceded for an instant that there can be any antagonism between humanity and medical ethics. Nor is it difficult in particular instances to decide practically in what way the dictates of humanity are to be harmonized with ethical rules. Regarded in a light derived from both these sources, the path of duty is sufficiently plain. Any act honestly performed purely for a humane purpose cannot but be consistent with the principles which underlie our admirable Code of Ethics. But, it is to be added, professional association with those who, in the language of the Code, are not "fit associates in consultation," except in emergencies, when philanthrophy, for the time, abolishes all restrictions, contravenes the humane objects of our profession, just so far as the useful applications of legitimate medicine are thereby trammeled or curtailed.

If it be inhuman, under certain circumstances, to decline association with irregular practitioners, it would be equally or more so under other circumstances to make those concessions which professional fellowship requires, to practitioners who profess hostility to medical science, and to the regular medical profession. The refusal of fellowship and affiliation with irregular practitioners thus is sanctioned, not only by a sentiment of self-respect and respect for our profession, but by a "proper regard for the dictates of humanity." The strong presumption is that every person engaged in the practice of regular medicine, has read and studied and thoroughly familiarized himself with our most excellent Code of Ethics, which is his chart and guide, and yet there are those regularly graduated from respectable schools and engaged in continuous practice for more than one or two years, who boldly announce the fact that they never saw, much less read, the Code of Ethics. This is an humiliating fact, but too true; and if physicians are ignorant of the rules and precepts of the Code, and, in consequence, fail to shape and conform their professional lives to its teachings and requirements, it is not a matter of wonder that the public should be indifferent to and hold it in light esteem. I make you this suggestion, that a greater familiarity with, and a more perfect knowledge of, the Code of Ethics by both the members of the profession and the public, would inure greatly to the mutual advantage and benefit of both.

Regular medicine is based upon the broad and fundamental principles of eternal truth, and has nothing to conceal, but would that all would study and learn of her doctrines. I would like, if time permitted, to speak of the many monuments of beneficence and charity she has erected to her honor and glory, even in our own State, such as the Blind and Deaf Mute Asylums, and especially the Insane Asylum over which our own Hooper presides, and which reflects such deserved and befitting honor upon the State Medical Society that worked so long and arduously for its establishment. Also the Medical Department of the State University whose success under all the circumstances has been wonderful—I might say almost phenominal. Without endowment fund or other assistance than that of strong resolve and faithful work, backed by the individual means of its faculty, it has prospered and succeeded almost beyond the expectations of its most sanguine friends; and it affords me real pleasure and satisfaction to bear testimony to the thoroughness of the course of instruction as attested by the proficiency of the alumni. It has been my duty to examine several of them, [and it is a burning shame upon our legislature that regular graduates should be subjected to such an examination, while others who perhaps were never inside the walls of a medical college and would scarcely be able to distinguish between a human femur and a spoke of a wagon wheel, are permitted to register and practice medicine,] and in every instance they have acquitted themselves in a manner that was not only highly creditable to themselves, but honorable to their professors, to whom I tender the hearty wish that their efforts as teachers and instructors, may be still more abundantly successful in the future. The progress and advancement now being made in scientific medicine are marked by long and rapid strides. The last eighty-five years have witnessed more brilliant and wonderful developments and discoveries than the five or six thousand that preceded, and the last twenty-five probably more than the sixty that preceded them. We must bestir ourselves or we will become laggards and drones in this age of rapid progress. Panoplied with our most admirable Code of Ethics as our ægis and chart, and properly appreciating the duties, responsibilities and requirements incident to our noble profession, may we

> "So live that when the summons come to join
> The innumerable caravan, that moves
> To that mysterious realm, where each shall take
> His chamber in the silent halls of death,
> Thou go not, like the quarry slave, at night,
> Scourged to his dungeon, but, sustained and soothed
> By an unfaltering trust, approach thy grave
> Like one who draws the drapery of his couch
> Around him, and lies down to pleasant dreams."

Now a word to the ladies who have honored us by their presence this evening, and I have done: "The goddess Hygea, your patron saint, will accept from her admirers and votaries no mere lip service; nothing less, indeed, than supreme devotion to her charms."

The noble profession of medicine present strong claims upon your affecitons and sympathy, because its saving influence in every circle of your life brings "the beauty of health and the fulfilment of domestic happiness. The elevation of woman, the just appreciation of female excellence, has ever continued to keep pace with the advance of literature and science. Look at her condition among the savage tribes! Cultivating the field or carrying home the bleeding victim of the chase, driven before her barbarian lord. Look at her condition among the semi-barbarous or half civilized nations! Shut up in harems or seraglios, cut off from the enjoyment of society, and denied the invigorating influence of pure air and God's own beautiful sunlight. But behold, as science advances, she gradually acquires her true position in the scale of life, the object of universal regard, the inimitable type of the artist's skill, the theme of the poet's happiest inspiration."

RHINAL AND PHARYNGEAL DISEASES PRACTICALLY CONSIDERED.

T. E. MURRELL, M. D.,
LITTLE ROCK.

This paper will be as brief as the subject will allow. Theories will not be discussed and pathology will be given only limited space. Nor will remedies be multiplied, the physician being allowed to select very largely for himself when the general principles of treatment have been given. The word "catarrh" will not be used, because scientifically incorrect and much abused by quacks. An inflammation of the nose is a rhinitis and an inflammation of the pharynx a pharyngitis, and whether acute or chronic these terms are alike applicable.

Clinical observation teaches that the pharynx and nares are nearly always affected together, and that a chronic pharyngitis is generally dependent on a chronic rhinitis, and that a chronic rhinitis seldom exists without co-existing pharyngitis. Hence the rhinal disease should claim precedence in point of importance and attention. Rhinitis is acute or chronic. Acute rhinitis is mostly simple, while chronic rhinitis may be simple, hypertrophic, atrophic or necrotic. Deformities and morbid growths make up the remaining list of nasal affections. Pharyngeal diseases may be similarly classified, viz: acute and chronic pharyngitis, the latter being divided into simple, hypertrophic and atrophic. Affections of the throat and nose due to scarlatina, diphtheria and other systemic diseases will be omitted.

CLINICAL HISTORY AND PATHOLOGY BRIEFLY CONSIDERED.

An acute rhinitis is commonly known as a coryza or cold in the head, with which a pharyngitis, or sore throat, is quite frequently associated. Either the one or the other may predominate and give rise to characteristic symptoms. Acute rhinitis commonly comes on with sneezing and stoppage in the nose, sometimes completely preventing nasal respiration. A watery discharge occurs, often quite free, which is later mixed with mucus, finally becoming mucu-purulent. The secretion diminishes day by day, until restoration *ad integrum* takes place. *Pari passu* with the subsidence of acuteness is the restoration of patency in the nasal meati. If a pharyngitis also exists there is a soreness felt on movement of the pharyngeal muscles and at times pain in the fauces, especially if the tonsils also are involved.

Inspection of the nares reveals in the first stage of acute rhinitis intense redness of the entire nasal mucous membrane with great tumefaction of the turbinated bodies, which is most marked in the inferior. Inspection further in may be entirely precluded by the inferior turbinated body coming in con-

tact with the septum. If the pharnyx is involved it will be found likewise either uniformly red or mostly along the pillars of the fauces. The condition is now one of acute vascular engorgement with hyper-action of the serous glands. Later, when the secretion becomes muco-purulent, the tumefaction will be found to have disappeared and the mucous membrane will be seen to be less intensely red, with strings and collections of muco-pus adhering along the turbinated bodies and septum. The mucous glands are abnormally active and some retrograde metamorphosis is taking place to produce pus corpuscles. With resolution there is a gradual restoration of all the parts to their normal condition and appearance.

Simple chronic rhinitis is characterized by a consciousness of some discomfort in the throat and nose almost constantly. Hawking and spitting, with occasional use of the handkerchief, are invariable habits. The matter thus removed is often only a glairy white and tenacious mucus or muco-pus, with flakes of dried secretions that have been dislodged from the mucous membrane. In damp or changeable weather, and at night especially, if the patient has been out of doors, the secretions are more abundant. Often the most disagreeable symptom is a sensation of something in the fauces, which excites repeated, but futile efforts, at removal. Inspection of the nares, both anteriorly and posteriorly, reveals a changeable mucous membrane. At times it is quite red and tumid, due to acute exacerbations, and these exacerbations are quite frequent, fixing the disease more strongly each time. Ordinarily, however, it presents a more than normal redness, which is flecked with little islets of muco-pus, often partly or wholly dessicated. The character and quantity of the secretion varies from time to time, being at one time thin and watery and at another tenacious and mucoid, and still again, perhaps, muco-purulent. Examination will sometimes fail to reveal a condition that will lead the surgeon to estimate correctly the annoyance to the patient. Then, again, there is little complaint where marked pathological appearances present themselves. Individual susceptibility and sensibility must, in large part, account for these differences. The pharnyx will almost invariably be found red and relaxed, and often thrown into folds, with perhaps a granular appearance. The vault of the pharnyx will likewise present changes, and mucus may be seen in the mouths of the eustachian tubes. The pathological condition is one of chronic follicular infiltration and functional perversion of the mucous glands, with vaso-motor disturbances.

Hyphertrophic rhinitis is found in persons who have long had nasal disease. The symptoms may be much the same as in chronic simple rhinitis, with merely an exaggeration of them, or other and more distressing symptoms may occur. There is the hawking, preceded by a prolonged nasal screatus and the dislodgment of matter, which may be scant and mucus in character or more abundant and purulent. There is an impediment, more or less marked, to nose breathing, which is completely cut off by a slight exacerbation, as from

an acute attack of cold. Ordinarily the discharge, whether by way of the anterior or posterior nares, is scant, but in some instances it is muco-purulent and abundant. The mucous membrane, covering the turbinated bodies and the septum, is thickened and often uneven or rugous in appearance, and rather paler than the normal color. This is especially so along the under surface of the turbinated bodies. The inferior turbinated body commonly shows the greatest amount of hypertrophy, though the middle or superior at times are chiefly involved, oftener the latter. Often the hypertrophy is localized in the anterior or posterior end of the inferior turbinated body, in the latter instance sometimes projecting into the superior pharyngeal space so as to present to posterior rhinoscopy the appearance of a morbid growth.

The thickening is not spongy and easily indented, as in acute œdema, but is firm and sometimes almost cartilaginous in consistency. Secretions are commonly seen adhering to the turbinated bodies and septum, either partly desiccated or muco-purulent and fresh when abundant. The pharnyx is invariably found involved in this condition. It is either habitually red and lax or covered with little elevations caused by hypertrophy of the lymph—and mucous follicles, or else it may present a rather pale and thickened appearance. Strings of mucus or muco-pus are commonly found dropping down from above. In the vault of the pharnyx is often found a thickened and irregular mass, a hypertrophy of Luschka's tonsil. There may also be partial obstruction of the mouths of the eustachian tubes by the encroaching glandular tissue.

The morbid condition in hypertrophic rhinitis is a sub-mucus infiltration and hyperplasia with the formation of neoplastic tissue. The normal glandular structure is choked out and destroyed wherever the hypertrophic tissue is extensive, and the normal mucous membrane is completely obliterated. Fortunately the entire nasal mucous membrane is almost never involved.

Atrophic rhinitis gives rise to complaint by the loss of smell, which, although a symptom in acute rhinitis temporarily, and in some cases of the chronic simple, and frequent in the hypertrophic, is almost invariable in this; by the accumulation of quantities of desiccated matter which are periodically removed in masses; and by the disagreeable odor remarked by others and not the patient. The nasal passages are unusually patulous and the mucous membrane appears thin and dusky and tightly drawn over the shrunken and withered looking turbinated bodies. The turbinated bodies and septum are covered by a dry and glazed mucous membrane, on which are collected here and there masses of partially desiccated and decomposed secretions, dipping into the sinuous passages and sulci and emitting a most offensive odor. The breath is fœtid and the sufferer, on this account, repulsive. The odor is inseparable from the condition when improperly cared for. The pharnyx presents a like glazed, dry and dusky red appearance, the mucous covering seeming to tightly adhere to the pharyngeal walls. It is often covered with a layer of dried, gummy, dirty looking matter, which, flowing down from above,

loses its watery parts on the respired air and forms a repulsive coating on the posterior pharyngeal wall. The pathological condition is one of general atrophy of all the structures of the mucous membrane and sub-mucous tissues.

Necrotic rhinitis is a term of my own coining. It is so named because the necrosis of both soft and hard structures forms its chief characteristic. It is what is commonly known as ozena, which word, however, fails to convey a correct etymological significance. It comes from the Greek oze, which means a stench, and it would be, therefore, equally applicable to some forms of atrophic rhinitis, which have been called, also, fœtid coryza, in contradistinction to ozena. In the early stages of necrotic rhinitis there is soreness with swelling in the nose, and if it is going to be very destructive in character there may be a high grade of ulcerative inflammation of the mucous membrane overlying the turbinated bones and septum, with much swelling both within and without, the nose being swollen and expanded across the bridge, and the overlying skin a dusky red. In these cases the progress will be rapid. A discharge of ichorous matter takes place from the nose, which very soon assumes a most disagreeable odor. Dead bone can now be felt with a probe, which rapidly disintegrates and comes away. First a perforation of the septum, then loss of the turbinated bodies, and, if unchecked, loss of the soft palate and portions of the hard palate, pillars of the fauces, cartilaginous septum and alæ, columella and tip of the nose, ulceration of the lateral and posterior pharyngeal walls, and sometimes necrosis of the bodies of the cervical vertebræ.

In the less malignant cases there may be a very slow loss of soft tissues and bone, and the destructive process may amount to not more than a loss of a part of the septum and some of the turbinated bones, and, may be, a portion of the soft palate. The nose is filled with large accumulations of partly dried matter, very difficult to remove and emitting a stench that baffles description. I know of nothing more disgusting or repulsive, and have almost been driven out of my office by the entrance of such an unfortunate sufferer, and after treating a case one will carry the odor in his clothes a whole day, and hours of ventilation is necessary to rid his office of it.

To treat of nasal deformities and their proper surgery, and of morbid growths within the nose and vault of pharnyx, and the best methods of removing them would extend this paper to undue limits. For this reason they will be omitted. Likewise no mention will be made of those affections due to systemic disease, diphtheria, scarlatina, etc.

ETIOLOGY.

Acute simple rhinitis is due to some sudden disturbance of peripheral circulation through vaso-motor influence. A chill of the body after being too warm, with the skin lax and perspiratory glands active, is a very fruitful cause. Overheated rooms in winter is a common cause. One form is of an epidemic

nature and is found to be due to a microscopic animalcule which Dr. Salisbury has named the asthmatos ciliaris. It is commonly known as epidemic influenza.

Chronic simple rhinitis is due to repeated attacks of the acute, and is especially liable to occur in certain individuals with vulnerable mucous membranes. A sedentary, enervating and indoor life are predisposing causes. It is often found associated with chronic dyspepsia. Tobacco smokers have habitually a red and lax pharnyx, and often a hyperæmic nasal mucous membrane.

Climate has much to do with rhinal inflammations; a damp and changeable atmosphere with great extremes between the diurnal maximum and minimum temperatures being especially inducive of them. Closely built and illy ventilated houses render one more liable to head colds. Persons who live out-of-doors rarely have colds. The condition of the vital powers or the measure of vital resistance determines in great part one's liability to affections of the upper air passages.

Chronic hypertrophic rhinitis is the result of long continued simple rhinitis. Constructive changes occur in the mucous and sub-mucous tissues as the result of long disturbed trophic action whereby proliferative changes take place.

Atrophic rhinitis is but a sequel to hypertrophic rhinitis, coming on, in some instances much quicker than in others, perhaps as the result of more serious interference with nutrition. It is caused by a choking out of the nutritive processes by the hyperplastic tissue, which finally leads to its own destruction. Fortunately the majority of hypertrophic cases are not sufficiently extensive to induce the atrophic changes.

Necrotic rhinitis is due to syphilis and is one of its tertiary symptoms.

PROGNOSIS.

Acute rhinitis is self-limited and is only important by repetition on account of the tendency to establish the chronic form.

Simple chronic rhinitis can be cured or so controlled as to give no offense, although it must be remembered that a certain amount of excess of secretion from the naso-pharnyx must be expected in this climate, especially during the winter and spring months.

Hypertrophic rhinitis is curable in so far as the chief features are concerned, but absolutely total and permanent immunity from any nasal trouble in changeable weather must not be expected, since the soundest individual is not free from such. It is important that the physician carefully impress upon the mind of his patient this fact, since once confirmed in the belief that he has so-called catarrh it is difficult to ever convince him that he is cured, under the popular belief that it is incurable.

Atrophic rhinitis is incurable, for the reason that a dead structure cannot be restored. Necrotic rhinitis is as susceptible of arrest as other destructive processes in tertiary syphilis.

TREATMENT.

A good head mirror and nasal speculum for anterior, and rhinoscopic mirror for posterior inspection, are essential both for diagnosis and repeated examinations during treatment. A McKenzie condenser gives the best light, but a good lamp or a bright sky-light answers every purpose. A condensed air receiver with spray tubes is important but not altogether essential for atomization, a good hand-ball atomizer serving reasonably well. A Warner's post-nasal syringe, a cotton applicator, a bulbous silver probe, a tongue depressor, a Jarvis' snare and a galvano-cautery battery make up quite a complete armamentarium for the rhinologist. The battery is only occasionally called into requisition and may be altogether dispensed with.

Like the time-honored recipe for cooking a hare, the first thing to be done in treatment is to make a diagnosis. Do not take the patient's word for this, unless you wish to build up a reputation on some cases and lose on others, for some will have no catarrh and consider themselves well after a little treatment and others will receive no benefit. It is on this principle that charlatans operate, treating all alike, diagnosing all alike. It is not every one who occasionally hawks or sniffles that needs special treatment, and notwithstanding the prevalence of rhinal and pharyngeal diseases, there is a greatly exaggerated idea among the laity concerning the simple and mild forms. Simple acute rhinitis should never be neglected, however trivial apparently at the outset. A slight soreness of the throat and stuffiness of the nose are the first indications of its onset. At this stage the one-hundredth grain of sulphate of atropia, repeated in an hour if the throat does not feel a little dry, will often abort it. If the nose is already freely running water, and a sense of feverishness is felt, one drop doses of aconite every one or two hours with a one or two per cent. trituration of cocoaine in pulverized acacia or sugar of milk, blown into the nose every two hours, will generally most effectually mitigate all the symptoms. If the pharynx is much sore and red, tr. ferri chlorid, drj., glycerine ozss., and aqua ozjj., applied with atomizer or gargled and swallowed every two hours will give great relief. A hot foot bath at night, hot drinks and similar measures to restore cutaneous circulation are very good if properly guarded, but in my experience atropia alone, or combined with morphine, serves a better purpose. During the stage of resolution but little need be done further than care of the person. Simple chronic rhinitis is often not easily managed, but with appropriate attention nearly always yields satisfactorily. In the first place, the general habits must be looked after and suitable clothing, diet, exercise and bathing enjoined. Smoking is injurious, especially cigarette smoking, the pyroligneous acid from the paper wrappers being a powerful irritant. In this form of rhinitis the condition is mostly a functional disturbance of the secretory glands of the schneiderian and pharyngeal mucous membranes and powerful irritants are not called for, they doing harm rather than good. Nor does flooding the nose

with salt water and medicated fluids by the douche, as is commonly done, benefit, but rather injure. Nothing but the mildest local treatment will avail anything in the long run. It is in just these cases that Rumbold's vaseline treatment accomplishes most. The vaseline being of itself perfectly bland is a protection to the mucous membrane in the absence of the normal mucous secretion; it also forms a good excipient for other remedies, cocaine, morphine, tannin, oil of eucalyptus, biborate of soda, extract of pinus canadensis, and various other agents may be combined with it, they being retained for hours in contact with the mucous membrane by the vaseline. It is best applied by atomization while melted, the best atomizing tube for the purpose being the DeVilbiss metal reversible tip. It may also be melted in a spoon and, with the face directed vertically, poured into the nostrils. A very nice preparation to use with the atomizer in this condition is a weak solution of biborate of soda with about a drachm of listerine to the ounce. Powders are also convenient forms of applying medicines. The excipient may be pulv. acacia, sach. lactis, pulv. ulmi or pulv. boric acid; the last is itself a good antiseptic but on first contact is somewhat irritating. Convenient powder blowers can be purchased cheaply, but the simplest and good as any, is about a foot of small rubber tubing, such as can be had in any drug store, into one end of which is fitted a goose quill with both ends open; a charge of the powder is taken up by dipping the quill into it and, to get a nice spray, both ends of the quill are held on a level and the powder shaken down into it; now, on placing the quill end into one nostril and the other end into the mouth and giving a quick puff the powder is thrown into the nose in a beautiful spray. All douching, syringing and flooding the nose in simple chronic rhinitis should be avoided.

The vault of the pharynx sometimes calls for local applications. They are best made with a curved applicator and absorbent cotton, or else a camel's hair brush on a handle made especially for this purpose. Tannin, iron, pinus canadensis, or any of the mineral astringents may be so used in not too strong solution. Internal remedies are occasionally advantageous, of which there is no more a specific than there is among local remedies, notwithstanding that terebene, turpin hydrate, balsam copaiba, cubebs, hydrastis canadensis and other remedies have been so rated at various times; but any of these, and the tonics, may, and often are, helpful auxiliaries. In country practice it will be found necessary to place the treatment of a case as much in the patient's hands as possible. In order to do this the methods of application must be rendered as simple as practical, and as a rule all atomizers must be dispensed with. In fact, I use atomization much less than formerly, even in my office. Treatment should occasionally be intermitted to note the effects. In fact, a course of a few weeks, winter and spring, is not only best but is necessary in many cases.

The treatment of hypertrophic rhinitis necessitates certain surgical pro-

cedures in most instances. So long as there is a thickened, diseased structure covering the turbinated bodies, and perhaps adenoid growths in the vault of the pharynx, ordinary local measures will avail nothing. The first thing, therefore, is to destroy the abnormal tissue. When moderately developed a few applications of chromic acid fused on a silver or aluminium probe, will be sufficient to destroy it. When still larger the galvano-cautery is better. But when there is a very great development of diseased structure it had best be removed with a cold wire loop of a Jarvis snare, where it is possible to engage ft in the loop. While apparently simple, the tyro will find snaring off hypertrophies deeply in the nares a very troublesome procedure. Cocaine should always be freely used before any of these measures are resorted to so as to obviate pain. It has the additional good effect of enlarging the choanæ by exsanguinating all erectile tissues, and thus rendering the view more satisfactory, the field for operation more roomy, and strictly drawing the line between engorged and hypertrophic tissues. After the destruction or removal of all morbid structures, a course of local treatment, embracing detergence, antisepsis and astringency will complete a cure. Many of these cases, after the removal of an excessively hypertrophied turbinated body, especially when it is the middle, will express the greatest relief from sneezing, heaviness over the brow, discharge from the nose and other disagreeable symptoms. The hypertrophic tissue at the vault of the pharynx can be removed by the galvano-cautery, which is difficult of application and not altogether satisfactory, by the wire snare when it projects considerably, or by a curette specially devised for scraping them off. Caustic applications are not reliable. After removal, treatment with glycerole of tannin applied with a brush, tends to prevent regrowing and causes shrinkage of any that may have been left.

Atrophic rhinitis, as has been said, is incurable, but much can be accomplished by treatment. Thorough cleanliness is absolutely essential to the comfort of the patient and those around him. Warner's post-nasal syringe with warm borax water furnish the best means for attaining this end. Used twice daily at the beginning, and later once daily, will suffice to keep all incrustations removed. After cleansing, an antiseptic, say listerine, glycerine and water, or carbolated water should be injected with the same syringe; or vaseline containing oils of eucalyptol and gaultheria forms a better dressing, giving a pleasant odor to the breath for an entire day and by keeping the surface soft prevents incrustation. Carefully carrying out these simple rules, which are not troublesome and should become a part of the daily toilet, will not only render life tolerable for these unfortunate ones, but there will be an amelioration of their condition.

Since necrotic rhinitis is due to syphilis in its tertiary stage, iodide of potash is first and foremost in the way of treatment and the quantity given should only be limited by its effects, especially if very rapid disintegration is going on. At the same time thoroughly cleansing the nose and pharynx, and

the application of nitrate of silver in strong solution, repeated daily so long as ulceration of the soft tissues is apparent, will rapidly cut short the progress of the disease in nearly every case. Later, when the soft tissues have begun to granulate and the bones are disintegrating and giving off foul odors, a powder of tannin, iodoform and pulverized boric acid should be blown in the nose after cleansing. Iodol, although non-irritant and easy of application, has disappointed me as a deodorant and antiseptic. Reparation is never made for the lost parts, but, on the contrary, disastrous results may follow upon the cicatrization after pharyngeal ulceration.

There are several remote troubles due to intra-nasal and pharyngeal diseases that might appropriately be mentioned here. As is well known, the majority of affections of the middle ear have their origin at the distal end of the eustachian tube, so that their successful management depends largely, and often chiefly, on proper treatment of the naso-pharnyx. Chronic simple conjunctivitis and certain asthenopic troubles are also attributable to a chronic rhinitis. So-called rose cold and hay asthma have frequently been traced to a hypersensitive rhinitis. Strictures of the nasal duct and abscess of the lachyngeal sac have a like origin.

In conclusion, it would well repay the general practitioner to give more attention to nasal affections, so as to place them upon the plane of curable diseases, and thus not to relegate them to the mercy of traveling charlatans and newspaper advertisements of so-called sure catarrh cures.

ANTIFEBRIN IN THE DYSPNŒA OF PNEUMONIA AND BRONCHITIS.

J. S. SHIBLEY, M. D.,
PARIS.

A case of typhoid fever in a boy aged six years, which was complicated by great swelling and tenderness of the liver and spleen, by an intercurrent colitis, and by septic parotitis, and which terminated fatally on the 27th day, presented an excellent opportunity for observing the effects of antifebrin over an extended period of time. From the latter half of the first week this case was characterized by high temperature, rapid and small pulse, cold extremities, labored breathing and great restlessness. For these symptoms antifebrin proved to a great degree palliative. Under its influence the pulse became fuller and less frequent, the extremities grew warm, while the internal temperature declined, and the restlessness and dyspnœa were mitigated; and mainly by its use the inevitable fatal collapse was deferred from the end of the first to the latter half of the fourth week.

Further observation of the effects of antifebrin in typhoid fever confirms the conclusion that it is indicated and promises the most beneficial results in a condition of high temperature with threatened collapse. In this condition the force of the cardiac contractions fails more rapidly than the contractile power of the arteries; the calibre of the arteries is diminished as indicated by the smallness of the pulse; and the volume of blood which they should contain is forced to find room in the veins, distending them and burdening the right side of the heart and the pulmonic circuit, and giving rise to the dyspnœa which is a prominent element of distress and danger. In the above case, as well as in subsequent ones, it was observed that the respiration was improved by the antifebrin quite as much as the circulation, sometimes even more so. Guided by this fact, its use was resorted to in the following case of croupous pneumonia:

Case 1. S. N., male, age 24 years, had "chills" in the summer and fall, rode in the rain December 1, and was seized with the initial chill of pneumonia the following night. He received a mercurial cathartic, quinine and opium, turpentine stupes and poultices, and later digitalis, morphia, atropia and alcohol. By the eighth day he was moribund; temperature 104 o, pulse 140-150, respiration 48; dyspnœa most intense; mouth widely opened for breath; trachea working freely; dullness throughout the whole of the left lung. It was thought that antifebrin, by lowering arterial tension, would make room for more blood in the arteries and thus relieve pulmonary congestion. Accordingly five grains were given at 11 a. m. At 2 p. m. the patient's

condition was wonderfully improved; temperature 101, pulse 130 and fuller, respiration 36, very great relief to dyspnœa. This relief lasted four or five hours, after which the temperature began to rise, the pulse to get small and rapid, and the dyspnœa returned, requiring another resort to the antifebrin. Over and over again this condition of comparative comfort, following the use of antifebrin, alternated with a return of all the distressing symptoms on the subsidence of its influence. Vigorous supporting measures were persisted in, but nothing could avert the tendency to collapse, though life was prolonged to the twelfth day of the illness and the fifth of the antifebrin.

This case, though fatal, was most instructive, showing the power of antifebrin and defining the limits of its usefulness. Within an hour after a sufficient dose, usually about six grains, the pulse would get fuller and less frequent, the extremities would get warm and the breathing would become deeper, less frequent and less spasmodic in character. But the effect of the antifebrin was only palliative; no curative influence was observed, either as related to the constitutional state or the local manifestation of the disease.

Case 2. A delicate girl, age five years, catarrhal pneumonia, supervening on the stage of desquamation in measles, December 26. Fourth day, temperature 104–5, pulse 150, respirations 45. R. Ammon. chlor. and tr. opium in syr. tolu for cough and pain, and three grains quinine four times daily; nutritious diet and small quantity of alcohol. December 28, sixth day, much worse; temperature 104-5, extremities cold, pulse 168-170, very small; respiration 50, inspiration a mere jerk, with great depression at the suprasternal notch; tracheal rales. Digitalis and atropia were added to the treatment, and half grain of antifebrin every two hours in solution with alcohol and syrup. Unfavorable prognosis was given. December 29, seventh day. Some improvement; temperature 101.5, extremities warm, pulse 150, respirations 40 and more free. Continued treatment, adding more antifebrin and alcohol to the same vial. As it did not dissolve readily direction was given to shake the vial well before pouring out the dose. December 30, eighth day. Has tāken all the mixture containing about five grains of antifebrin, and probably the greater part of it in the last few doses. Temperature in axilla 95.5, extremities warm, pulse 130, soft, volume increased though still small, respiration 32, easy, regular; drinks milk freely. The antifebrin was now withheld for eight hours, by which time the temperature was again decidedly rising, with a return of all the unfavorable symptoms. As the nurse could not take temperature nor count pulse he was directed to give the antifebrin one grain in powder at intervals of four hours or longer, so as to secure relief from dyspnœa. Under this direction he kept the axillary temperature one or two degrees below normal for the next two days, when the child's condition had so greatly improved that only an occasional dose of antifebrin was required. Recovery was slow but complete.

Six other cases of catarrhal pneumonia in children, one of bronchitis, and

three of the uncertain condition denominated catarrhal fever, have been treated with antifebrin, and always with apparent benefit. All recovered—two of them after an unfavorable prognosis had been given. But of six cases of lobar pneumonia, two of which proved fatal, notwithstanding the antifebrin produced decided palliation, no one recovered whose recovery could be fairly attributed to its use.

As to the *modus operandi* of antifebrin in relieving dyspnœa, I think we may accept the conclusion that it is in part by lowering arterial tension and thus equalizing the circulation. But this equalization, while it diminishes internal temperature by increasing radiation of heat from the surface, is, it seems to me, itself consequent on a prior decrease in the rate of heat production. A result similar in kind, though less in degree, may be brought about by the cold douche and by ice bags applied to the head. In collapse from hyperpyrexia in typhoid fever I have seen the pulse increase in volume, and warmth return to the extremities under this treatment. In pneumonia and bronchitis in infants and children I have repeatedly witnessed considerable relief to dyspnœa from the application of the cold pack to the chest. Possibly antifebrin may act directly on the red blood globules, and by diminishing their capacity as oxygen carriers, limit both the production of heat and the demand for oxygen, thus relieving at once fever and dypsnœa. This action on the blood globules is indicated by the cyanosis and hæmaglobinuria, both of which I have seen follow full doses of antifebrin.

The therapeutic use of antifebrin, in pneumonia and bronchitis, is that which, short of the destruction of blood corpuscles, limits heat production, lowers arterial tension, equalizes the circulation and relieves pulmonary congestion and dyspnœa. Carried further it poisons the blood, induces cyanosis, and debilitates the heart's action even to fatal collapse; or it may cause arrest of renal function by clogging the uriniferous tubules with the debris of disintegrated blood corpuscles. It is an agent potent for good or evil, and one whose use requires the greatest circumspection.

OBSERVATIONS ON THE EFFECTS OF ANTIFEBRIN.

B. HATCHETT, M. D.,
FORT SMITH.

My observations on the therapeutic effects of acetanilidoe or antifebrin have not been as extended as the importance of the subject probably merits, but they have been sufficient to establish in my mind a firm conviction that in this drug we have our best and safest antithermal agent, an anodyne of no inferior worth and a medicine whose full scope of usefulness has not yet been attained.

I have taken from my notes the following extract of cases:

Case 1. Male adult, sick with typho-malarial fever. Had been confined to his bed for three weeks, attended by an eclectic doctor, when I was called to see him. Found him with a temperature of 102 degrees F. in the morning, which would rise to 104 in the evening. General condition pretty good. Prescribed the ordinary antipyretics and quinia in the usual way for three or four days with no apparent benefit, when I discontinued them and ordered antifebrin in five grain doses, to be given in whisky toddies with sufficient frequency to keep the temperature at about 100 F. I found about four doses for every twenty-four hours were required. This was continued with no other medication than good nourishment and strict attention to hygiene for about eight days, when convalescence was established and patient went on to a speedy recovery.

In this case considerable diaphoresis would occasionally follow a dose of antifebrin in from thirty minutes to an hour, last a short time and cease, leaving him with good strength and in a comfortable condition generally. Temperature would invariably be brought to 101 degrees or below within an hour and a half, and remain down for from four to eight hours.

Case 2. Married lady, aged 40 years. Acute malarial fever of the remitting type. During remissions temperature would fall to 102 F. and in the exascerbations rise to 104 or 105. After using the commonly prescribed medicines for forty-eight hours I resorted to antifebrin. Gave first dose of six grains when temperature was at 105 F. Her skin was dry and harsh, pulse pounding, excessive pain in head and inordinate nausea and retching. The drug was easily retained and quickly absorbed into the circulation. In twenty minutes she was feeling somewhat relieved. Commenced to perspire in thirty minutes, nausea ceased in forty minutes and at the end of an hour she was feeling quite comfortable, with no headache, no retching, gently perspiring and fever rapidly declining. From the effects of this dose her temperature fell to 101 F. in about an hour and a half, and remained so for six hours, during which time I gave her thirty grains of quinia sulphate in three doses of ten

grains each. Her fever never again went so high, but during the exascerbations I ordered antifebrin in five grain doses to bring it down, and during the decline quinine with hydrobromic acid until she became cinchonized. This method was continued three days, when patient began to convalesce and soon recovered.

Case 3. A white boy, aged 12 years; cerebral congestion; suddenly and violently attacked. When I first saw him his temperature was 106 F., throbbing carotids, rapid, bounding pulse, suffused countenance, a fixed, leaden glare from the eyes, unable to speak or to swallow. Gave four grains of antifebrin dissolved in whisky hypodermatically. In fifteen minutes he began to perspire quite freely and in ten minutes more he was literally bathed in sweat. His temperature within forty minutes was reduced to 102 and remained so for some hours, when it again rose to 106 F. During the decline in his temperature he was very much prostrated, even to the point of extreme exhaustion, but his cerebration was somewhat improved. He was able to speak a few words and swallowed some liquids with difficulty.

When his fever again rose, I used ice caps and other remedial agents, but he had no relief, and died at the end of thirty-six hours from the time I saw him, with a temperature of 107 F.

Being alarmed at the extreme prostration following the first dose of antifebrin, I was deterred from repeating it. With my present experience, if I were to have the same case again, I should use the drug in smaller doses and often repeated.

Case 4. A young man of about twenty years of age—a student in one of our public schools, was attacked with measles. I was called to see him on the third day after he had taken his bed. Found him with a temperature of 105 degrees F. Pulse 130, breathing 45 per minute; skin cyanosed and thickly covered with the peculiar rach of measles. Dyspnœa marked, and very harrassing. Gave him at once five grains of antifebrin dissolved in a whisky toddy, and sat by his bedside to watch results. The first effects seemed to be upon the character of breathing, which was soon diminished in frequency and relieved of its distress. Then followed a decline in temperature, slowing of the pulse, clearing of countenance and the beginning of a gentle sweat. These progressed until fever went down to 100 F. with very profuse perspiration and some exhaustion. The exhaustion and sweat, however, lasted only for a short while, and patient was left in a much relieved and very comfortable condition.

Other remedies were employed as indicated, and antifebrin used only when demanded by symptoms as above. Patient recovered in due time.

Case 5. Reported to me by Dr. Saunders. A female child, twenty months old, was sick three weeks with capillary bronchitis. About the tenth day of its illness a very violent abscess developed in the sinuses of the frontal bone, causing great suffering and very much complicating the case.

The child's temperature, when left to itself, would rise to 104 F., when it would have rapid, difficult breathing, cyanosed countenance, and suffer intense pain in the frontal regions, after the development of the abscess. Aconite and other antipyretics in conjunction with expectorants were first used with no beneficial results, when resort was had to antifebrin dissolved in whisky toddies. When first beginning the administration of antifebrin, 1½ grain doses were sufficient to reduce the temperature to 101 or 102 F., and to entirely relieve the suffering of the little patient, and bring a season of rest and quiet for eight or ten hours. Fever would then rise, and symptoms develop as before. This method was continued for some time with such other medication as was indicated during the remissions, until it seemed as if a toleration for the drug had been established, and the doses had to be increased in size. As much as three grains were given it at once, always dissolved in whisky, with no evil results in the way of depression or excessive disaphoresis. Patient made a good recovery.

Case 6. A male child, two years old; a case of measles, followed by catarrhal pneumonia. Many of the symptoms same as in the foregoing case. Dysponœa more pronounced and greater pyrexia. Antifebrin in doses of from one and a half to three grains given in dilute whisky, never failed to bring the fever down and relieve the distressed breathing, but this condition would last only about five hours. During remission quinine, etc., were given and other agents employed as indicated. Patient died.

Case 7. A negro man, thirty years old, was shot through the left lung by the captain of our city police. He lived for three months and then died, I presume from exhaustion. I attended him during the first month after he was wounded, and saw with much satisfaction the effect of antifebrin in reducing fever from traumatic causes. Five grains would invariably bring his fever of 104 or 105 F. down to 101 in an hour or so, without any physical depression and with very little diaphoresis.

Case 8. A widowed lady, aged twenty-eight years, mother of two children, a great sufferer from tubal or oravian dysmenorrhœa. To use her own language she "had tried everything and everybody, usually failing to realize any benefit." I was called to see her a number of times during these attacks and was much mortified at my failure to give relief. Finally I was sent for one day quite hastily, and found my patient suffering with intense headache, great pain in her loins, extremely nervous, constant nausea and retching, with a fever running to 103 F. For the last mentioned symptom I at once administered five grains of antifebrin, and had the great pleasure of seeing not only the temperature very promptly reduced, but the other symptoms as promptly disappear. Since that time, by the use of a few doses of this drug, she has passed her catameniæ with comparative ease.

Case 9. Reported to me by Dr. Eberle. A girl two years old, affected with pneumonia. With the ordinarily prescribed antipyretics fever

was controlled for the first few days of the attack, but later on, in spite of all remedies, the fever kept climbing, until it reached the frightful height of 106°. Then as a dernier resort, antifebrin was ordered, with the happy result of promptly bringing the fever down, and improving the condition of the patient in every way. She recovered.

Case 10. A mulatto woman, aged twenty-five years, sick with dysentery, accompanied by high fevers. Antifebrin was freely used, with the very best of results in the way of controlling temperature and lessening tenesmus. With the use of other appropriate remedies she recovered.

Case 11. A 17-year old girl, who had been affected with chorea for four months. I was called to see her when she was extremely nervous and unable to walk. Wishing to test the sedative effect of antifebrin I at once gave her eight grains, which was followed in two hours by another dose of five grains. This had the effect, so the mother informed me next day, of producing much quiet and rest, so that she had a pretty good night's sleep. Next morning her condition was considerably improved, so I ordered the drug in five-grain doses, to be given as necessary to procure rest, and prescribed arsenic three times per day. She was kept on this treatment two months and discharged cured.

I can now call to mind twenty-three cases of headaches of various kinds in which I have prescribed antifebrin, and in only two or three instances has it failed to give relief. In this number I include myself. I am a frequent sufferer from frontal headaches of catarrhal origin, and have been taking antifebrin for its relief for several months. It has never failed me.

The above are only a few among the scores of cases in which my partner and myself have used this drug during the past year. In fact, we now make it our first and universal therapeutic endeavor when wanting to reduce exalted temperatures from any cause. In only two or three instances have any unfavorable symptoms manifested themselves, and they quickly passed away. In no case has it ever failed to lower temperature when above the normal.

I have made only one experiment to find its effect on normal temperature. That was on myself. A dose of six grains reduced my temperature one-fourth of a degree from the normal in one and one-half hours.

My experience has been that the drug is proportionately better borne by children than adults.

ERGOT IN CONGESTIONS.

J. C. MINOR, M. D.,
WALNUT RIDGE.

The use of ergot in equalizing the circulation and of relieving congestion by its peculiar action upon the vasa-motor system is nothing new; but its application in such congestions as we meet with in the first stage of pneumonitis, meningitis and acute articular rheumatism is of more recent date, and its use in such affections is either not generally believed or it has been neglected.

I have had no experience in using ergot in rheumatic affections, nor have I had any great advantages from experience in judging of its uses in pneumonia and inflammation and congestion of the brain and spinal cord. But I call attentton to the subject more particularly to elicit opinions from those who have used it and to suggest its use to those who have not, than I do to throw any light upon the subjecl by my own success.

My first trial of ergot as an abortive agency in pneumonia was occasioned by my being called one evening in February, 1886, to see a little boy four years of age, who complained of cough, dull pain in right side, labored respiration, headache. He presented the flushed cheeks, fever 104 degrees, rapid pulse, expectorating brick dust sputa, and, upon physical investigation of chest, pneumonitis was found present in its first stage in the lower lobe of right lung.

I ordered a flannel cloth fairly well medicated with turpentine, to be applied to the whole chest, and one-half teaspoonful of Squibb's ergot every two hours till pulse became less rapid and more steady, and should the skin become cold (for I feared prostration) to administer whisky freely.

The next morning temperature was 99°, skin cool, pulse about 85, pain almost gone and little fellow sitting up feeling better. His father said he had become alarmingly cold about daylight, so much so that he thougtt of sending for me, but commenced rubbing him with whisky and giving it internally until the boy went into a sweet sleep. Nothing more was done for him but to give a tonic.

My second trial was a case I diagnosed as congestion of the brain. Case was advanced twenty-four hours. Boy eight years old, lying on his side, head drawn back, now and then uttering a sudden scream and then apparently sleeping; eyes quite crossed, bowels tumid and costive; foul breath, heavily coated tongue; reported as having vomited a worm the day before of quite considerable dimensions. I at once thought that I had a case of cerebral congestion, caused, perhaps, by presence of intestinal worms. My treatment was an enema, copious, stimulating, and thirty drops of ergot every two hours, giving usual caution as to watching the pulse and taking it as guide for with-

drawing the drug. He was reported next morning as better. An anthelmintic was given and "a hatful of the awfulest worms you ever see" reported.

Dr. W. J. Watkins, a physician of Lawrence county, and well known in in this organization, reported to me the following case in which he used ergot quite experimentally and assigning no further reason for so doing than experiment:

He was called, in consultation with two other gentlemen, to see a patient aged thirty, rather apopletic temperament; attacked suddenly after excessive vomiting, the result, apparently, of a "spree;" speech rather incoherent on account of each sentence being interrupted; pugilistic when aroused; pulse 40; temperature below normal; no nourishment taken for about five days; inability to swallow; no manifestations of pain; pupils dilated; secretions normal. Nearly everything that could be done for the man had been done, but no diagnosis could be made. The doctor's guardian angel whispered "ergot," and, accordingly to the laughter of the other gentlemen, administered hyperdermically one drachm of ergot with one-third grain morphia. In nine hours patient was rational and sent for Dr. Watkins to have a talk with him. With little or no trouble the man recovered. The doctor assigned no reason for its action in this case, but believes ergot is entitled to the credit. He has never tried it in pneumonia with any degree of success, believing, like the old woman, that "the old way is the best."

I have collected reports from several of the physicians in our county in regard to the feasibility of using ergot as an abortive in pneumonia and other congestions in certain stages, and the opinion of all who have used it intelligently, and even experimentally, have accorded the subject the same favorable recognition that Dr. Bartholomew does in a recent letter in regard to using it as an abortive agent in congestions. Permit me to quote him. He says:

"I have no doubt your conception of the powers and uses of ergot in pneumonia is in harmony with the present knowledge of its physiological actions. You are aware, of course, that ergot more than a year old is worthless, etc. It is this uncertainty that exposes all observations to doubt and denial. That ergot is capable of much in the way you suggest can hardly be disputed, although its utility in pneumonia has been affirmed and denied."

Surely we can have no reason for at least not trying ergot when so much can be accomplished in the event of its acting at all.

One physician reports twenty-seven cases treated last winter with ergot, no deaths among them. The majority of cases aborted within forty-eight hours and the others abridged to five and six days. The gentleman is a man of ability and integrity, doing about the largest amount of practice in Lawrence county east of Black river. I refer to Dr. M. V. Camp.

Pneumonia is every winter and spring a dreadful scourge in some localities, and it is the physician's duty to kindly and wisely tender advice to try to prevent the disease. If he fails in this, grasp every opportunity to abort it. If he fail here, treat it.

ABORTIVE TREATMENT OF ACUTE LOBAR PNEUMONIA.

S. P. GREEN, M. D.,
HARRISON.

Any rational treatment of pneumonia or any other disease, must be based on either a knowledge of its etiology or the morbid processes induced, or both. Also a knowledge of some therapeutical means by which to combat them, or at least some of them.

We have two theories in regard to the cause of pneumonia; one is, that exposure to cold, sudden changes of temperature, etc., causes internal congestions and inflammations of visceral organs. The other is, that there is a specific cause, in the same sense that malaria is the specific cause of intermitting and remitting fever; that this specific cause is predisposing and essential, while the exposure is only accessory and non-essential. The latter, to my mind, is most probable. For we have cases occurring that cannot be accounted for by the former theory.

In support of the specific etiology we sometimes have epidemics of pneumonia. It occurs most frequently in the same sections of country where other acknowledged specific diseases are most common. Flint claims that the same kind of inflammation cannot be induced by direct violence to the lung, such as incisions, gun-shot wounds, etc. Various other forms of pneumonia may be induced experimentully in animals, but this form of pneumonia cannot. Juergensen and Cohnheim contend for the specific character of pneumonia. The specific poison causing pneumonia most probably enters the lung with the inhaled air and there sets up a nucleus of proliferation and infection, invading the whole system and causing inflammation at the point of first attack. For this entity to enter the living body and then proliferate, it must nourish itself on just such material as the bioplasts of the system use. From this we think it must be of simple cell form, in nature much like the bioplasts of the blood.

The morbid processes occurring in the inflamed lung during the initial stage, I suppose are more or less familiar to every physician. The blood is changed in its quality and relation to surrounding parts; the cells of the inflamed tissue assume the embryonic state and excessive proliferation of cells results. The blood vessels dilate until the intercellular capilary loops partly fill the air cells. The blood current is retarded, moves slower and slower, until stasis hurls the blood back and embarrasses the right side of the heart. Migration of leucosites and exudation of plastic lymph take place. Pain, either by causing the patient to lay on the affected side, or rigidity of the respiratory muscles of that side places the painful part in a comparatively quiescent state. The temperature is raised four to seven degrees.

TREATMENT.

Juergensen, after reducing the temperature by the free application of cold water, gives about ten grains of quinine in order to maintain the reduction as long as possible, and claims by this method to have not only relieved to a great extent the suffering of his patients, but reduced the rate of mortality.

Flint, Palmer and Bartholow, by administering antipyretic doses of quinine (20 to 40 grains) have aborted many cases, and favorably modified those failing to abort under their influence. Of eight cases treated by myself by antipyretic doses of quinine with an opiate, six aborted and in two the treatment failed to have an appreciable influence more than reducing the temperature for a few hours after their administration. I will give in detail notes taken from the bedside in two cases, the first illustrating the six cases that undoubtedly aborted, the second illustrating the two cases in which the treatment failed to shorten their duration:

Case 1. J. F. W., age 25, had chill April 23, 1887. Saw the patient April 24, 1 p. m. Temperature 106¼, respiration 26, pulse 120. Pain in left side, slightly dull on percussion over lower and posterior portion of left lung, crepitant rales over same part; expectoration tinged with blood. Diagnosis; acute lobar pneumonia.

Treatment: Quinine gr. x x; morphia sulp. ¼ grain; the quinine to be repeated in four hours. 7 p. m., temperature 102, respiration 22, pulse 108, perspiring freely; ordered salts at 8 p. m. April 25, 8 a. m., temperature 99, respiration 20, pulse 55. Saw the patient no more for three days. In the morning of the third day examined him in my office. Temperature 98½, respiration 18, pulse 76. Convalescence progressing. The patient recovered without further treatment.

Case 2. John J., aged 35, Jan. 24, 1888, 6 p. m. Had chill; saw the patient Jan. 26, 9 a. m. Temperature 104 4-5, respiration 25, pulse 110. Pain in right side, dull on percussion, brick dust sputa. Diagnosis; acute lobar pneumonia.

Treatment: Quinine gr. 20, morphia sulp. ¼ grain; the quinine to be repeated in four hours. Directed salts to be given six hours later. January 27, 11 a. m. Temperature 103, respiration 24, pulse 116. Gave syrup ipecac and quinine, two grains every three hours. The patient remained in about this condition for six days, except on the fourth and fifth days the fever rose to 104, terminating on the evening of the ninth day by crisis.

As stated before for the rationale of this treatment we will have to look to the effect of quinine and opium—first, on the cause; second, on the induced morbid processes. Quinine in these decided doses will probably render the poison harmless by combining with it, forming a new compound, or destroy its vitality; or, failing in this, it will affect it like other bioplastic elements, lessen its activity for an indefinite time, the inflamed lung recuperating during

the inactivity of the poison. Quinine given this way will prevent or check the migration of lucocites, and thereby should it fail to cut short the disease, will render purulent infiltration less liable. It will check or retard cell proliferation. A great part of the quinine given will pass from the stomach through the liver and right side of the heart to the inflamed lung, and there becoming entangled in the general stasis will remain to exert its influence. It will decrease the blood tension, the opiate relieving the pain, the more forcibly inspired air will force the blood out of the engorged vessels into adjacent vessels. It will induce free perspiration, eliminating effete materials from the system, reduce the temperature and maintain the reduction for several hours, and if administered promptly early in the disease, will probably abort the majority of the cases.

REPORT OF THE COMMITTEE ON SURGERY.

A RESUME OF THE ADVANCE IN SURGERY OF THE ABDOMEN, ESPECIALLY PERTAINING TO EXPLORATORY INCISION.

GEORGE F. HYNES, M. D., CHAIRMAN.
VAN BUREN.

Malgaigne took the position that the viscera could not escape injury if the abdomen were pierced from wall to wall. Well authenticated cases show him to have been in error, though he reasoned well and the cases are only sufficient in number where death occurring from other causes autopsy discovered no lesion of the intestines, though the abdomen was perforated with bullet or blade, to conclusively point to the probability of non-injury to the viscera in cases of perforation treated expectantly, which are reported by various observers as ending in recovery.

Otis makes three divisions of cases of recovery after indubitable shot penetration of the abdomen. First, cases of perforation of large intestines in parts uncovered by peritoneum, with or without abnormal anus; second, a group, very small in number, of wounds of the solid or membranous viscera with extravasation of their contents within the peritoneal cavity. In the third are cases where the injuries to the viscera were ouly slight or nil.

Direct aid is not readily obtainable in differential diagnosis of the injuries of the abdomen. Escape of the secretions through the aperature of the external wound is the only conclusive sign of solution of continuity of either of the abdominal viscera. Gross has shown that any wound to the intestine over three lines in length is liable to fœcal extravasation. Under this, eversion and pouting of the mucous membrane may be sufficient to avert it. Sudden meteorism is symtomatic of intestinal perforation, but may also arise without physical lesion as a consequence of simple contusion, the concussion of the nerve centers leading to temporary paralysis of the muscular coats of the bowels. Grave wounds in this region give rise to more profound shock than is produced in other parts, but this supervenes after simple contusions and may last as long as if an organic lesion were produced. Syncope with collapse denotive of hemorrhage may be known from true shock by extreme thirst and constant jactitation being found in addition to a group of symptoms common to both, which are great pallor of the countenance, a small, tremulous state of the pulse, frequent sighing, clammy sweats and coldness of the extremities.

The mortality in injuries of the abdomen reported as penetrating wounds was found by Otis to be nine in ten, or ninety per cent., and if undetermined cases are added it is still eighty-two per cent., while European statistics, including the Franco-Prussian war, with wounds of the pelvis, which are much

less deadly, included, show a little more than seventy-five per cent. mortality. The experience in the war was that if by fortunate adhesion or occlusion by interposition of the omentum or contiguous viscera fœcal effusion was temporarily arrested, it was liable to be provoked by moving the patient.

Dr. John Bell describes a group of cases in which the patient goes on well until the eighth or tenth day, the intestines having only been bruised in the rapid passage of the ball, and then the hurt part sloughs off and the fæces are poured into the abdominal cavity, and there is a sudden interruption of the stools, and as sudden a tension and swelling of the belly and speedy death. Contrast the mortality under the regime of operative interference, and who can doubt that it is a duty to open the abdominal cavity for purposes of diagnosis?

Of seventy-nine cases, collated by MacCormac, of laparotomy for intra-peritoneal injuries, the results are as follows:

Eighteen cases, stab wounds, penetrating the abdominal cavity, ten successful, eight deaths.

Thirty-two cases, gun-shot wounds, penetrating the abdominal cavity, seven successful, twenty-four deaths, one doubtful.

Sixteen cases, rupture of the urinary bladder, six successful, ten deaths.

Thirteen cases rupture and contusion of viscus without external injury, all thirteen were lost.

I find reports of thirty-six cases of laparotomy in tubercular peritonitis the majority, through mistaken diagnosis, ovarian cyst being aimed at. Of these thirty recovered, two died of the operation and four at intervals of a year or less.

Laparotomy has not only occupied all the ground that Dr. T. Gailand Thomas prophetically laid out for it, but new fields of usefulness are being surveyed. Perforation in typhoid fever has of late been in three cases the cause of exploratory incision. These have been unsuccessful, it is true, but when the operation is performed earlier we may look for better results.

Some gentlemen would have us believe that the operation is only to be performed by those especially prepared to do it, *i. e.*, by private hospital, etc. They would almost have us forget that surgery was anything but an art or that there was such a thing as the science of surgery. What enabled McDowell to perform abdominal section? To be sure he had preparation, but not that of the specialist of to-day, who, according to his own view, stands pre-eminent and in his own little world is king.

Let us look for a few moments at some points in the technique. Dr. John B. Roberts advocates incision in the median line in order that a thorough inspection may be had, as where a slight enlargement is made only a single injury is brought to light, whereas the perforation may be multiple.

MacCormac says probing under reasonable precautions is not forbidden. He advocates early operative interference, a rapid suturing of the gut when it is the seat of the lesion. The Lembert suture fulfills the indication of bringing

large areas of peritoneum together, and as it does not perforate the mucous coat gives no chance for leakage along the side of the stitches. MacCormac thinks the cleansing of the peritoneal cavity is best effected by a three per cent. solution of boracic acid at 100 Fah., irrigation being the mode of applying it.

M. Terrier, (L'Union Medicale, March, 1888,) reports seven successful cases of laparotomy, in which drainage of the peritoneal cavity without previous washing out was used. M. M. Banilly and Ferrilon, while they have no fear of drainage, think washing out better.

Barwell reports a case in which during acute peritonitis, following a blow upon the abdomen, he opened the peritoneal cavity, sponged its lower portion and washed it out with distilled water, bringing away quantities of flocculent pus. The wound was sewn close without drainage. There was rapid convalescence. This agrees with the experience of Tait, who uses thorough irrigation and no drainage. Tait claims uniform success in laparotomy for all cases of tubercular peritonitis, so far as the operation is concerned, with eighty per cent. of recoveries.

In the sepsis which follows at times the section of the abdomen irrigation continued for twelve days, has been successful in two cases in the hands of Dr. Haggard of Nashville. He used water at a temperature of 105 Fah.

SUMMARY.

1. Laparotomy as an exploratory measure, is clearly indicated by all wounds of the abdomen when symptoms of hemorrhage or perforation exist, or where there is evidence of intestinal perforation or destructive lesion to a blood vessel, or any of the viscera, symptoms not having developed; also in intestinal obstruction, the accumulation of pus or serous fluid from any source, the existence of a neoplasm, destructive changes in any organ within the abdomen, extra uterine gestation and perforation of typhoid ulcer.

2. Irrigation of peritoneal cavity, instead of cleansing with sponges, is looked upon as promising better results. Water at about a hundred Fah. with or without additional antiseptic, the fluid residue being finally sucked out by perforated bulb-ending tube attached to a suitable aspirator.

3. The surroundings of patient should be as near the ideal as to cleanliness, light, atmosphere, not to speak of that great adjuvant to success, a good *esprit du corps* in all, attendants as well as friends.

4. Patient must not be allowed to die for the lack of either a specialist or a hospital, or both, though all advantage of this sort should be placed at his disposal when available.

WHAT ASEPSIS HAS DONE.

EDWIN BENTLEY, M. D. (U. S. A.),
LITTLE ROCK.

The term asepsis, the equivalent of antisepsis, was introduced in 1865 by Joseph Lister, with reference to special forms of wound treatment. He had previously been impressed with the character of the discharges in wounds, but it was not until Pasteur's researches on the causes of fermentation and spontaneous generation that he conceived any definite idea of the morbid process. Previous to this time, two theories prevailed on the subject of fermentation; the one that fermentation was due to the action of gases in the air, the other that it was due to a spontaneous change following the loss of vitality. While other doctrines prevailed, but little advancement resulted, although efforts had been made.

Jules Guerin of Paris had sought to prevent the putrefaction in pus by preventing the admission of oxygen. This bore the name of the "Occlusion Process." His researches in this way were suggested by the good results which had attended his treatment of cutaneous wounds. He attributed this to the occlusion of atmospheric air, or to the gases circulating in it. With all his ingenious devices it was found to be impracticable to convert an open into a concealed wound. Various other methods were introduced, as the use of carbonic acid gas, by Lecont and Desquennay. Previous to this, however, a number of organic substances had received the name of antiseptics from their power of preventing fermentation and smell. These agencies in the form of ointments, boli or lotions, had long been in use. In 1859, ——— and Desneaux presented a paper on coal tar paste which aroused French surgeons and for a time the subject received special attention in the treatment of wounds. After repeated experiments with coal tar, carbolic acid was found to be the essential ingredient, by the researches and observations of Lamain. Nelaton, at the same time, was developing the virtues of alcohol. The work of Lamain had so far advanced that knowledge of the value of carbolic acid had spread to the Continent, and in Great Britain Spencer and Ward had employed it, but when about to fall into disuse, it was revived and again brought to light by the labors and writings of Lister. While these views were being agitated, the "Germ Theory" came forward for consideration. Four great Nestors in science were at work, whose rapid advancement in this department must be an eternal glory to science and research. I need not refer you, who know it all so well, to the labors and achievements of Schumann, Schroeder, Durch and Pasteur.

The theory that fermentation was due to gases in the air, no one could successfully maintain; organic fluids could be sterilized by boiling and so be indefinitely preserved, if passed through sulphuric acid, in the presence of air

previously heated and filtered through cotton wool. No gas has the power of producing putrefaction.

Inasmuch as the cause was not in the gases of the air, the attention was attracted to the substances floating in it, which could be removed from it mechanically. Thus it became known, definitely settled, that the gases were not the causes of the putrefaction. This was fixed by the clinical observations of Guerin.

The experiments of Lister with urine have become classic, like those of Schumann. In the latter the effect is the same as on dust in a tube heated to redness. In the former the temperature is raised to 3000 F. and left for three hours, long enough to destroy any living organism.

When it was understood that fermentation was due to the decay of particles from without and that they were destructible by heat and chemical agencies, the possibility of preventing the fermentation in the discharging wounds immediately arose. This progressive idea was seized by Lister and on its development the fruitful results of asepsis have arisen, the idea always being to prevent the septic discharges on which fermentation depends.

Listerism implies the cause of fermentation to be due to the particles from the outer world, with which the discharges are mixed.

In all fermenting fluids is a class known as a schizomycites, commonly bacteria. These micro-organisms do not arise spontaneously, but always from a parent. It is known that they enter fluids from particles present in air and water.

Fermentation is the result of micro-organisms in fermentable material, as alcoholic fermentation is due to the yeast cell in the sugary solution, vinegar to the vinegar plant. These facts being established, it is clear that the treatment of wounds may be met by the exclusion of causes that lead to putrefation or fermentation. On the basis of these principles aseptic surgery has been founded, which not only acts to prevent but to overcome their influence and power afterwards.

The fermentation of discharges in wounds being due to the presence of micro-organisms, it then follows that antiseptic surgery would be due to the exclusion of these organisms. Of course in inflammation the presence of dead animal matter, air and water are essential basic preparations for the action of the ferment. Carbolic acid, although a celebrated antiseptic, is of itself an irritant and gives rise to increased discharge in wounds, and in the case of albuminous material the amount must be great to be effective. Free drainage is an efficient and satisfactory antiseptic method. The same may be said, also, of irrigation.

The possibility of preventing fermentation in wounds has always been the great aseptic idea.

The alcoholic fermentation is due to the yeast cell, vinegar to the vinegar plant, blue milk, blue pus to the presence of micro-cocci. The facts produced

by Pasteur and Lister in confirmation of these views leave the direct inference that putrefaction is no exception to the general rule that all fermentations are due to the presence of micro-organisms. It must be conceded that causes or agents acting against them are antiseptics. It may prevent their entrance or neutralize them afterwards.

Those which are most efficient and useful are those which best destroy the organisms without irritating the parts. The value of carbolic acid is greatly impaired and rendered unfit for this purpose by its irritating properties, and in albuminous discharges it has little effect.

Free drainage becomes an antiseptic from the discharge being carried away before the organisms have time to develop, so irrigation and the water bath become important antiseptic measures. It is in this way that the open method of treating wounds becomes antiseptic. The free exposure of a wound to the air acts antiseptically for chemical reasons long ago established by Pasteur in the study of alcoholic fermentation. The yeast cells being retarded in their action from the free supply of oxygen, when they had little oxygen they drew from the sugar and fermentation rapidly went on—an argument for ventilation. Hence the advantage of the exposure of a wound over being shut up with masses of dressings, besides in open wounds evaporation goes on in the discharges, which favors the crust formation.

Aseptic surgery, as taught by Lister, implies complete exclusion of micro-organisms. By this method infectious diseases have become well nigh, if not completely, abolished. Complete asepsis is necessary for the successful opening of cavities and joints, opening a proud abscess or operating for ununited fracture. Asepticism, in a word, is Listerism, and it implies complete prevention of fermentation by the abolishment of particles of matter in the wounds, and whatever the future may develop asepsis must ever remain the fundamental method of wound treatment.

To secure an aseptic wound the entrance of organisms must be prevented. The skin, even of the most cleanly in this blustering world is more or less covered with dust, which presumptively contains the active causes of fermentation. These must be destroyed or the scheme is negatived. On the hands of the surgeon or his attendants may be numerous causes of fermentation to be removed. Instruments and sponges may be a medium of communication. Water may be more contaminating than dirt. Absolute cleanliness, even to chemical perfection, is the idea of asepsis. Mark the successes and achievements of the great Birmingham master, whose famed results astound the world.

It is but a demonstration of the old proverb, "that prevention is better than cure." With him the extreme detail of cleanliness, of purity, becomes the law where only science, blooming with the blush of youth and glowing with healthfulness and beauty, and fully trained to their new status by his own instructions, only are allowed to serve. There is a moral as well as a physical

force in all this that works a telling story on the patient, oftimes giving an encouragement akin to inspiration. Agents which prevent putrefaction and decomposition have also to arrest fermentation depending on the presence of micro-organisms. Germicides are not necessarily antiseptics.

Some agents are antiseptic from their power to precipitate albuminous matters from organic solutions, as sulphate of iron, sulphate of zinc, chloride of zinc. The latter, in the proportion of one to fifty, destroys bacteria. Again, chloride of zinc, sulphate of magnesia and sugar may be germicidal from making the fluid too dense for the purposes of organic life. Not alone in wounds, but also in the mysterious workings of disease have the apparent workings of these micro-organisms been manifest.

A peculiar contagion, says James, has been associated with the clinical features of malaria. Previous to 1879 most of the hypotheses had reference to fresh algæ. These views have never been confirmed, although Klebs and Tomasi Credilli, from the soil of the Roman Campagna, isolated a bacillus which they believed to be the cause of malarial diseases. They obtained cultures of the organism in rabbits, which were followed by typical intermittent fevers with organic lesions similar to them, dying of intermittent fever. The name "bacillus malariæ" was given to it. In 1881 Laveran, a French army surgeon in Algiers, presented a work on "Plasmodium Malariæ." He presented and described in the blood certain bodies never before described or noticed. He assumed, in the blood of his cases, the presence of a parasite or a polymorphic organism belonging to the animal kingdom. Since Laveran's paper Manebiafava and Celli have devoted much time to its study, and in our own country Counselman and Orton have given it much attention. Our present knowledge is much as follows: In the blood of persons suffering from malarial diseases are conditions not elsewhere to be found, all of which point to the presence of an animal parasite. First in the red blood corpuscles is found an amœboid body larger, paler and flatter than normal, five celled bodies. There are various mobile bodies which possess flagelli larger than the blood cells. Among the lower orders of animal organisms are many polymorphic varieties, which, at different periods of development, cast as spores amœboid bodies, cysts and flagellated organisms, as among the protozoa are forms that develop the spongia with falciform spores like crescents. Golgi of Paris, gives a form for each type. The paroxysm is the period when the segmentation takes place, or the setting free of the spores.

The discovery, in the blood, of segmentary bodies, justifies the prediction that a chill will take place within two hours. Golgi asserts that after the chill certain free spores and unpigmentated amœboid bodies are found in the blood. James found the segmentary bodies just before and during the paroxysms. The pigmentated amœboid bodies may be found at any time, but are most numerous during the paroxysms. The crescents and the bodies

allied to them occur in chronic cases, and those allied the thalanic cochixia. On this point all observers agree.

The term plasmodium has been thought to have been improperly used in this connection, as it has reference to a particular stage of development common to different organisms. So far as known the malarial germ has no plasmodium stage. The malarial organism has been designated by Laveran by the term "Malariæ Hiematozoon."

Morro injected in the peritoneal cavity of pigeons and chickens, blood from the carotids of a dog. After two or three days, the former, being killed, in the peritoneal cavity a fluid remained, of the injected blood. This contained corpuscles of the dog and bird, the latter like those of the hiematozoon of malaria. Morro argues that this is not an independent organism, but a metamorphosis of the protoplasm of red blood corpuscles. Manehifava and Celli have repeated Morro's experiments with negative results. Marophano experimented, subjecting slides to heat and pressure. He obtained in the red corpuscles the amœboid bodies, like the organisms of malaria. James failed to confirm these observations. Klebs, says Rosenstein, found similar bodies to the malarial organisms in typhoid fever. Dujardin found them in healthy blood, Hoffman saw them in pernicious anemia, Pfeiffer found them in the blood of scarlet fever, mumps and vaccination. They have been referred to any organic blood change. James sought for these conditions with philosophic patience, with one-twelfth and one-tenth oil emersion objectives observing the usual precautions in examining malarial blood. He examined seventy (70) cases as follows: Phthisis, 11; pernicious anemia, 3; chlorosis, 14; sineocythenia, 3; jaundice, 3; cavernous cachexia, 3; chronic lead poisoning, 1; typhoid fever, 10; pneumonia, 4; diabetes mellitus, 2; anemia from cardiac disease, 2; acute pulmonary hemorrhage, 4; acute articular rheumatism, 5; cirrhosis of liver, 1; septic fever, 2; chronic Bright's disease, 5; scarlet fever, 3. In all these cases no blood appearances were found that could be confounded with malarial blood.

All protozoons are unicellular. Cartulus found in the stools of Egyptian dysentery and in pus of liver abscess, large amœba, which he believed had relation to the disease. He found them only in dysentery, and his work has not been repeated, and their life history has not been given.

Dirchler describes protozoon in the expectoration of whooping cough. Pfeiffer and Loeff have given descriptions of amœboid organisms as protozoon, in the contents of small-pox, vericella and vaccine pustules. A peculiar organism has long been known in the blood of many frogs. Gauli thought it a metamorphosis of the protoplasm of the red cells. Roy Sankerton and others proved it to be an independent organism, a protozoon, part of its life being spent in the interior of a red blood corpuscle.

Wittich found in the blood of moles, protozoon resembling those of malarial disease in men. Manehifava and Celli found in the blood of frogs,

about Rome, hæmatozoon like those in malaria; others have found them in the blood of carp and mud fish, frogs, turtles, lizzards, etc. Simes and Crookshanks, in India and London, made similar observations in the blood of apparently healthy rats. Many fresh-water plants show like organisms as the hæmatozoon of malaria, actively moving flagelletad bodies. This hæmatozoon of malaria has been thought to be a parasite of some plant.

Asepsis, which seems to be so allied to the modern ideas of the germ theory of disease, is not so much a mushroom growth and development as the casual observer might suppose; it is not the effusion of one man's conception, but rather the product of the accumulated ages; from 1493 to 1560 the greatly renowned Parucelcus noted that nature was herself equal to the task of repairing wounds, and that non-interference was the best policy.

Ambrose Pare first showed that gunshot wounds were not poisonous. He also held that air was more beneficial than injurious to a wound; that it was the miasms in the air that produced the mischief in camps, sick rooms, etc. Magatus, in 1516, claimed that the air was full of infection, and proved it by the rapid decomposition which followed the pricking of the shell of an egg. For this reason his dressings were seldom changed.

Wiseman, Great Britian's chief army doctor, in 1692, used turpentine as a dressing. So early as 1706, Parmanns speaks of using a lotion in wounds, which prevented putrefaction and all complications, as inflammation and pain. In the same year Anel, the illustrious cotemporary and competitor of John Hunter, for priority in the application of the ligature for the cure of aneurism, used the aspirator in evacuating abscesses without an open wound; Boerhaave in 1720, connection between external wounds and internal abscesses; Hunter in 1793, used balsams because they prevented putrefaction; Pott in 1768, found a fair antiseptic dressing in compound fractures by sealing the wound; in 1784 B. Bell used leaden drainage tubes, he also advised valvular openings for removing floating cartilages; Hunter in 1792, favored the doctrine of healing under a scab; Surrey in 1829, thought the accumulation of blood, and consequent tension, did more harm than air in a wounded part; Lombard and Pearcy 1785, learned of the infallible Alsatian remedy for wounds, which turned out to be pure river water combined with certain magic phrases, which in use were highly praised.

VonKern, in 1809, taught that all that was needed in the treatment of wounds were, first, cold water to arrest hemorrhage, then warm water for drainage, absolute rest and artificial heat. This doctrine prevailed on the continent and in England until 1860. The important outgrowth of this theory was the subcutaneous method as carried out by Delpech, Duputen, Dieffenbach and Stroymeyer. On their success efforts were made to convert open into subcutaneous wounds. In this direction Guerin and Chasraignas made extended efforts. The former tried to filter the air and so remove its miasm by surrounding the wound with cotton wool. This possessed the advantage of an

elastic dressing and constant temperature. Various gases were applied to wounds, as oxygen, hydrogen and carbon dioxide. These fell when pure air was found not to be injurious.

In 1856 Bartrchen and Bezin published the method of open dressings, which gradually yielded to the antiseptic treatment and teachings. Since 1839 Lungenbeek's method, by constant irrigation by emersion, has been in use.

The introduction of the germ theory of disease, which has its inception in Lister's expansive views, which have wrought the aggregation of the apparent and abounding phenomena, has effected a revolution in surgery.

It may be that the principles have not been so practically demonstrated in medicine, but where is the obstetrician or gynæcologist of modern times that has failed to recognize and attach to cleanliness a degree of importance never dreamed of before. It is now generally recognized that puerpural fever, the natural dread of the lying-in chamber, is due to septic poisoning. The report of the committee appointed by the Obstetrical Society of Berlin, on December 4, 1877, settled this question of cleanliness in the lying-in chamber. This report was made by Schroeder, Sohlein, A. Martin, Fastenbender and Boch. The rules laid down by them were simple, like all great truths, that all hands should be washed with an antiseptic solution before making examinations. This greatly reduced the death rate. Previous to this it had been so great that the thought of discontinuing the hospital had been seriously considered, but antisepsis reduced it from fifty to one or two per cent. M. Fornier, by strict observance, has reduced the death rate in Paris in these institutions to one-half of one per cent.

Need I invite you to look at the triumph and successes in the various departments of our art in the private hospitals of specialists in our own country, as well as foreign lands? To say nothing of the glorious advancements in the public instructors of the world, and I will not ignore the greater masses, made up from the greater multitude which forms the constituency of the general practitioner, disseminated throughout the length and breadth of every civilized country, for there will be found no exception to the widespread universality of intelligence and the diffusion of progressive knowledge everywhere. Hence who may not, since asepsis has arisen to knighthood, in his tour of duty explore a cavity, remove an offending ovary or penetrate a joint, and at the end of a quarter's course or more herald to the profession his list of successes, with scarcely losses enough to prove, by the exception, the general rule?

Every branch in the divisibility of medicine has been wondrously enhanced since the introduction of asepsis and its kindred outgrowths and associations. Where is the surgeon of to-day that is so adverse to the recognized precepts and teachings of his time, as not to resort to some of the well known methods of sterilizing his instruments before operating? His inclinations may lead him to the mechanical process of friction with clean linen, or he may

be led to adopt some of the chemical forms, as alcohol, carbolic acid, salicylic acid, permanganate of potash, chlorine water or hydrogen dioxide, or he may be sufficiently conservative to depend on thermal heat alone, 52° to 100° for an exposure of ten minutes, while the site of the operation is cleaned with soap and water, followed by bi-chloride 1 to 2000, and a similar formula for the hands.

The results and influences of asepsis' benefaction have not been hidden in the ground or buried in a nut shell. Its effects have been as diffusive as written language. It has been subjected to the most trying ordeal that science, genius or prejudice could produce, yet the result of every test, the action of every agent has been to establish more firmly the eternal basis on which it must forever stand, and cause to shine more clearly the beacon light, which has so often brightened the pathway in determining his diagnosis and in treatment, and has so often guided himself and his patient safely through the abortive and morbid labyrinths, where, previous to its time, no practitioner had dared to travel.

All glory, then, to asepsis and to its original standard bearer. Like a bold mariner on an untried sea, he led the advance; like Columbus when viewing the uncertain land in the distance, from the deck of his flag ship Santa Maria, he urged his fellows to keep up full sail in the interest of the successes which might attend the grandest expedition known to medical science, or better still, like Ambrose Pare, who held up the glorious possibilities of the ligature, against the appalling satires of Gourmelin of the famed University of Paris.

So Lister may glory in the magical triumph and conservatism achieved through ASEPSIS.

1.

Conservatism, old and happy thought,
Which has by antisepsis brought,
To surgery, advances great and grand,
Blessings to the wise in every land.

2.

So wondrous has the thought become
That it is not longer venturesome
For surgeons, serous cavities to invade,
Where disease did defiantly parade.

3.

Lurking in the mischief of some morbid form,
Fearless of the approaching storm,
When asepsis leading the bright way,
Lifts a mantle, and healthfulness doth portray.

4.

How simple then, are nature's plans,
When philosophic truth expands,
Divorcing the mind from the routine of the past
To the God of the future with her temple overcast.

BILIARY CALCULI.

A. J. VANCE, M. D.,
HARRISON.

The first thing to be considered under the term biliary calculi is the mechanism of their production. Cholesterine, a normal constituent of the bile, is a waste of nervous matter, and of the adipose tissue, and is an excrementious material excreted by the liver. The normal bile is neutral or slightly alkaline in reaction, and so long as it maintains in that condition cholesterine will be kept in solution, although a larger amount than normal may be found in the bile. But if the reaction become acid from any cause, the cholesterine is precipitated, and the more acid the bile becomes, the more readily this occurs.

A deficiency of glyco-cholate and tauro-cholate of soda, two normal ingredients of the bile, is probably one important factor in precipitating or crystalizing the cholesterine. Another prominent factor is a catarrhal state of the bile ducts and gall bladder. The excessive mucus generated by the diseased mucous membrane furnishes a nucleus about which the cholesterine crystalizes.

It also acts as a ferment and causes an acid fermentation which results in the precipitation of cholesterine. Another cause is the combination of the coloring matter, bili rubin, with lime, and especially is this an important factor in the etiology of biliary calculi where the drinking water contains large quantities of the salts of lime. Bili rubin, like cholesterine, is soluble in alkalies and is precipitated from its solution by acids, consequently when acid fermentation takes place under the influence of mucus bili rubin may be precipitated in combination with lime, and this may act as a nucleus for the formation of calculi.

When all the conditions favorable to the precipitation and crystalization are present any foreign substance may serve as a nucleus.

Concretions of inspissated bile sometimes act as nuclei and may even be of sufficient size themselves to cause symptoms of hepatic colic, though of milder intensity than that caused by gall stones.

The number of stones formed in the gall bladder ranges from one to several hundred. The larger the stones the fewer there are in the cyst.

To determine whether any stones remain after an attack of hepatic colic the stone passed should he examined and the number of facets on its surface will indicate the number of stones with which it has been in contact.

Obesity and advanced age seem to act as predisposing causes, as in these cases there is a greater waste of fatty tissue and consequently a greater excretion of cholesterine.

Hepatic colic occurs, however, in children and even in infants. It is claimed that attacks occur more frequently about one or two hours after meals, as at that time the presence of chyme excites a flow of bile and it is during a flow of bile the stones enter the cystic and common bile ducts.

I have observed that errors in diet, such as the use of fats and saccharine substances, are apt to cause attacks. Too long intervals between meals are said to favor attacks.

The symptoms due to the passage of biliary calculi—constituting bilous colic—are sudden pain in the right hypochondrium, the pain being most excruciating, griping, tearing, burning or boring, shooting over the abdomen and into the epigastrium.

Patient is doubled up and rolls about as in ordinary flatulent colic. In most cases he groans, screams and writhes in the most intense agony; countenance becomes palid and drawn, expressive of the most intense suffering; body is covered with a cold sweat; nausea and vomiting supervene, and depression of vital powers with signs of collapse; pulse becomes small and thready; jaundice in some cases when the calculus reaches the ductus communis choledochus. I have seen convulsions due to this cause in children. The pain ceases when the stone passes into the duodenum, or in rare cases, returns to the gall bladder.

It is very difficult, in some cases, to make a diagnosis in the beginning, or rather during the first attack. It is liable to be mistaken for gastralgia flatulent colic, localized peritonitis, perityphlitis, or impacted fæces. It can generally be diagnosed by the sudden onset of pain, sudden cessation, a history of previous attacks, the presence of jaundice, and the stools containing calculi. The jaundice is not of much diagnostic value, as it is not present except when the calculus is lodged in the ductus communis choledochus.

If the attack cannot be diagnosed at first positively, then it would be well to examine the fæces carefully by mixing with water and straining through a seive.

The palliative treatment of hepatic colic consists in such remedies as will secure for the patient the quickest relief from the severe pain. For this purpose ¼ gr. sulp. morphia and 1-200 to 1-100 gr. sulp. atropia should be administered hypodermatically and repeated as often as needed to relieve the pain, taking care, however, not to administer so much as to allow the drugs to exercise their power to an extent which may prove over-narcotic, should the attack terminate suddenly by the natural progress of the disease.

In urgent cases, chloroform can be used by inhalation until the physiological effects of the morphia and atropia can be procured. Hot fomentations to the epigastrium and right hypochondrium should be resorted to. It is generally advisable to administer an active, but not drastic, purgative, such as Epsom or Rochelle salts. One to two grains of calomel given dry on the tongue every two, three or four hours, is an efficient remedy as a purgative

and to relieve vomiting, which is present in nearly all cases. The hypodermic administration morphia also relieves the vomiting.

It is desirable if possible to effect the solution of the gall stones in situ. Flint recommends the alkaline carbonates for this purpose. Buckler has suggested the use of chloroform, in view of its solvency of cholesterine. Bartholow recommends puncturing the gall bladder with a fine trochar, and injecting through the canula a suitable solvent. The same author says that spontaneous disintegration of gall stones sometimes occurs by the movement of the body by which the corners and borders are crumbled, and by the solvent action of the alkaline bile on the cholesterine. When the stones are composed of lime and bili rubin, however, the bile does not exert a solvent action. If it is possible to effect the solution of gall stones in situ, it seems that that object would more likely be accomplished by restoring to the bile that condition which in the normal state holds cholesterine in solution. To accomplish this the salts of soda, the phosphate, sulphate and cholate are used to supply the deficiency of the glyco-cholate and tauro-cholate of soda and to counteract the acid fermentation caused by the excess of mucus from the catarrhal condition of the ducts and gall bladder.

The phosphate of soda has given such good results in my hands that I have used it exclusively as a prophylactic in biliary calculi. By the persistent use of it I have succeeded in relieving a great many cases entirely. In other cases I have succeeded in lessening the frequency and also the severity of the attacks, so much so as to render the aid of a physician or the use of the opiate unnecessary during the attacks.

Attention should be called to the diet. Alcoholic stimulants, fats and saccharine substances should be interdicted. With these precautions, together with the persistent use of the phosphate of soda, and cistern water for drinking purposes, I believe that the formation of biliary calculi can, in most cases, if not in all, be effectually prevented, and it is probably worth an effort to give it for any solvent action it might possess.

A CASE OF CHRONIC CIRCUMSCRIBED PERITONITIS WITH EFFUSION, TREATED WITH INCISION AND DRAINAGE.

R. C. DORR, M. D.,
CHARLOTTE.

I was called to see Mr. C. on June 9, 1887. History: While working at a mill May 30, 1887, a 2x4 scantling 7 feet long caught in the fly wheel, one end striking him in the left hypochondriac region, knocking him breathless. Drs. R. and R. were called immediately. From the best I could learn they treated him with calomel, quinine and dovers powders. Symptoms: Pulse, 110, small and wiry; respiration, 30 and pectoral; temperature, 102½ degrees; countenance pinched; abdomen tymp., with greatest tenderness in the left hypochondriac region; pains radiating from there over the abdomen; thighs slightly flexed; vomiting greenish colored matter. Treatment: Opium, carbolic acid and glycerine, quinine, nutritious diet, and hot application to the abdomen. This treatment was followed with some variation up to July 1st. At that time he was clear of fever. Then I put him on tonic treatment. By July 7th he was able to walk around. Contrary to orders, on July 15th he rode a mule three miles over the mountains. July 16th he was taken with a swelling in the left hypochondriac region, vomiting of a watery fluid, difficult breathing, and a whitish discharge from the bowels, which his family thought was matter. I saw him on the 18th of July, and found the following symptoms and signs: Difficult breathing, vomiting a watery fluid, swelling in the left hypochondriac region, extending to the umbilicus and beyond the median line; dullness on percussion. Used exploring needle and found serous fluid. July 19th, aspirated and drew off eight pints of serous fluid and two ounces of pus, which relieved the breathing and vomiting. Tonic treatment continued, with hydragogue cathartics early in the morning, so as to not interfere with his digestion. July 26th, aspirated and drew off seven pints of serous fluid with a little pus at the last. August 7th, aspirated and drew off nine pints of serous fluid. August 14th, aspirated and drew off eight pints of serous fluid. August 24th, aspirated and drew off eight pints of serous fluid. September 21st, aspirated and drew off ten pints of bloody fluid.

From July 19th until September 21st, the patient improved and was able to go around most of the time. October 27th I aspirated, but did not get any fluid, and the patient had severe cramping. From this time until December 29th he gradually weakened, and was in a critical condition.

The following are the symptoms and signs: Pulse, 115; respiration, 36; temperature 100 degrees; vomiting watery fluid, and could not retain any nutriment; great emaciation, and not able to turn himself in bed; area of

swelling larger than any time before, pressing up against the diaphragm, interfering with the heart's actions. I made an incision about two and a half inches below the ribs, and about four inches from the linea alba, and drew off about two gallons of bloody fluid, and put in a drainage tube and washed him out with chlorate of potash, one ounce to the quart of water. From this time on the patient made an uninterrupted recovery. January 25th I took out the drainage tube. The cavity had healed by this time so that it did not hold more than a half pint, and the patient was able to sit up. At this time the cavity is healed; weight normal, and able to do ordinary labor.

My object in reporting this case is to see if the profession at large think it justifiable to use incision and drainage early in similar cases, or use more conservative treatment, such as aspiration and constitutional treatment.

REMOVAL OF SOFT FIBROUS TUMOR FROM THE ABDOMINAL PARIETES, WITH REMARKS ON THE MANNER OF PROCEDURE.

GEORGE F. HYNES, M. D.,
FORT SMITH.

Mr. T., about 45, merchant, robust in appearance, came to my office in November, 1887. I found a tumor situated in sub-cutaneous celular tissue, which patient had first noticed in April of same year. Its growth was not perceptible until within a month of his visit, at which time it was about the size of a hen egg, nodulated and flattened. Urinalysis showed nothing abnormal except an exceedingly low specific gravity (1,004). The growth continued to be rapid until its removal, January 7, 1888, nearly doubling in two months.

The removal by enucleation was more difficult than either Dr. Dibrell, Sr., or I had anticipated, the nodules being bound and held in place by the fibrous stroma encapsulating each. The growth was not exceedingly vascular, iodine in water about 100 Fah., being with sponge pressure sufficient to control the bleeding. After an incision in the median line of about two inches removal was attempted with handle of scalpel, using slight traction, but resort to partial dissection was imperative, which was done mostly with scissors. The wound was dressed with sub-iodide of bismuth, antiseptic cotton, surmounted by absorbent cotton. The dressing was removed by the patient with some frequency, contrary to instructions. Edges of wound which had been approximated with sutures, gaped and became irritable, and quite extensive supuration was set up leaving a rather slow healing by granulation. Making due allowance for irritability in a patient of highly nervous temperament, which was evidenced by the low specific gravity of urine, the secretion the while being abundant, tests of which were made at first examination, I could not help but be impressed with an article by Dr. J. J. Berry, of Norwalk, Conn., in which exception is taken to the common practice of dissecting out tumors and the like with the handle of the scalpel. This course, he further says, should only be pursued when absolutely necessary. The result of such a procedure is disastrous to the vitality of the parts; minute blood vessels are torn through and off; nerve fillaments are bruised, and minute portions of tissue are deprived of their blood supply and become necrotic. It is far better to include portions of healthy tissue in the exsected mas than to economize in this particular and produce a lacerated wound.

Let me say that, under date of April 7th, patient says he feels no tenderness and is assured that the growth will not return.

I have attempted to bring this case before you with the idea of provoking discussion on the manner of the surgical removal of these growths, feeling assured that excission, however modified, is the measure always indicated.

REPORT OF THE COMMITTEE ON GYNECOLOGY.

THOMAS W. HURLEY, M. D., CHAIRMAN,
BENTONVILLE.

Mr. President and Gentlemen of the Society:

If, as Lowell says, "originality consists quite as much in the power of using to purpose what it finds ready at hand, as in that of producing what is absolutely new," then the amount of original matter in our report will be indeed valuable, for:

"We have gathered poses from other men's flowers;
Nothing but the thread that binds them is ours."

At the conclusion of the article will be found the names of the books and authors referred to and quoted.

The theme of our report is Woman and Her Diseases.

Having been elevated from a condition of servitude to become the companion of man, it is a pleasant thought to know that in the process of this civilization the sexual maladies of woman have interested and engaged some of the best minds in the medical profession. Witness such men as Hodge, Meigs, Atlee, Goodell and Parvin of Philadelphia, Bedford, Thomas, Sims, and Emmet of New York; Byford of Chicago; Miller of Louisville; Campbell of Augusta, and in this beautiful Border City the late E. R. DuVal, a member of this Society, whose native goodness of heart, matured judgment, and skillful hand was ever ready in woman's behalf, and who no doubt would have attained to eminence in this department of medicine had not the behest of the Almighty taken him from our midst to reap his reward in a country where there are no suffering women.

The widest and perhaps the best definition of our subject is expressed in the word Gynecology. It embraces indeed far more than is expressed in the term, diseases of women. In its full etymological meaning it is comprehensive beyond the strict domain of medicine; but experience and thought will show that it does not go beyond the philosophical conception of the care of the health of women.

We feel proud of the fact, and justly so, that America has been foremost in the development of modern Gynecology, and first in organizing societies for its cultivation. The first gynecological society was established in Boston. The first national society of the kind was organized about twelve years ago in the city of New York. These examples have received the high compliment of imitation by Great Britain and Germany, whose gynecological societies rival, but do not surpass the American Gynecological Society. The intrinsic value of this becomes more imposing by recalling the fact that all this has been done within so short a space of time. Modern gynecology is not much more than

seventy-five years old, yet during that comparatively brief period there has been much accomplished. During these few years, the diagnosis and treatment of all affections peculiar to women have been brought out of the obscurity and darkness of the past into the clear light of modern medicine. The surgery of gynecology has been marvelous in its progress. Many of the diseases of women, which formerly impaired or destroyed life, are now largely under the control of the surgeon. At least ten of the most difficult, complicated and heroic operations in the whole range of surgery are gynecological, and have been devised by men who have devoted their best efforts to this department of medicine.

There have been devised for the examination and treatment of diseases of women over seven hundred and eighty instruments, most of them in modern times. For the correction of displacements of the uterus there are about three hundred different pessaries in use. Many of these instruments, together with many uterine supporters, were invented to meet the requirements of individual practitioners, and hence they may be of little value for general use. The mere fact of their existence, however, shows the praisworthy industry of those who are engaged in this field of labor. The growth of the literature of gynecology has also been quite surprising in our time. During the last three-quarters of a century, about six thousand books have been published, treating of the diseases of women. In the past eight or nine years, eight hundred and twenty books and seven thousand six hundred and fifteen journal articles and pamphlets have been added to the list. Of these modern works the majority are devoted to surgical gynecology, which shows that surgery is still receiving the most attention. This is to be expected. There is most of art in surgery and most of science in medicine, and it is in the order of things that the art should take the lead at certain stages in the development of knowledge. Gynecology has been no exception to this rule; in fact, were it not for its achievements in surgery, gynecology would not have a very well-sustained claim to a place among the specialties in medicine. The inventive, ingenious and dexterous operators have won most of the laurels so far. There is no doubt that operative surgery holds too prominent a place in every-day thought and action, especially as it relates to gynecology. What we want, therefore, is more conservatism in this department of medicine—a conservatism that tends to alleviate sufferfng before resorting to operative interference. There is too great a tendency to radicalism in gynecology. Men who are engaged in the practice of this specialty—many of them—are too anxious to develop something tragic and wonderful in their line. That the tendency is a dangerous one, who will deny? In demonstration of this, who can begin to enumerate the number of cases in which the abdomen has been opened for supposed ovarian disease, when not a trace of anything pathological was discoverable? Who will write the history of the cases in which perfectly healthy ovaries have been removed as an offending cause, without one

shadow of improvement in the general condition of the patient? Who will write the history and give the true results of the Alexander operation twelve months after its performance?

Would it not be better at the present time, in place of seeking further to develop the "tragic and wonderful" in surgery, to give a little more time to weighing and estimating the value of what has already been done. This would enable the conservatives to advance, while the radicals might lessen their speed a trifle, and thus both could go forward, hand in hand, steadier, stronger and better by the slight change in the order of their going. Not that the art of surgery should be cultivated less, but the science of medicine more.

Some one has said that the life of woman is the history of disease. Without accepting this idea in its entirety, yet it is undeniably true that to appreciate justly the pathology of woman we must observe her in all her social relations, study minutely her moral and intellectual characteristics—that we must, in short, never for a moment lose sight of those physical attributes which indelibly stamp her as woman, which direct, control and limit the exercise of her faculties..

This collateral study is of infinitely more importance in the pathological history of woman than it is of man. A very large, perhaps a preponderating, proportion of all the diseases to which women are subject, arise out of or are in intimate reactive relation with the play of her sexual system.. The key to many of the disorders of women, especially of the nervous system, will be found here. The essence of her mental life is responsive; the emotional, the reflex or diastaltic functions play an infinitely more active part than in man. It may be further said that the reciprocal action of the brain and spinal cord and ganglionic nerves is quicker and more intimate than in men, especially that the brain is more strictly subservient to the animal functions. Abstraction from corporeal impulse, initiation, enterprise, are masculine faculties.

There is one *prima facie* limitation of the subject. The proper diseases of woman occur during her sexual life—that is, during the functional activity of the ovaries, uterus and breast; therefore the study of the gynecologist need not embrace more than the development and diseases of these organs. We must bear in mind that all the great pathological processes may assail the ovaries, uterus and breast; that all the diatheses may stamp their work upon these organs. And this they may do apparently primarily, or with especial activity; or secondarily, in the course of the development of the morbid process in other organs, or in the system at large.

Another law is of deep import, from a scientific as well as from a clinical point of view. Almost all the constituent elements of the body are represented in the uterus, modified of course in arrangement, and assuming certain peculiar characters in order to subserve the particular functions of the organ. But the modifications so acquired do not deprive these fundamental elements of their original and essential properties. By these fundamental properties

these elements are attached indissolubly to general pathology; by these specially adapted modifications these elements become the seat of our so-called special pathology. Thus the fibro-muscular tissue of the uterus is liable to all those departures from the healthy type, as fibroma, myoma, fibro-myoma, hyperplasia, hypertrophy, and the degenerations to which like tissues elsewhere are liable.

There is a therapeutical corollary from this law that deserves, and to which your earnest, practical attention is invited. A great part of the treatment of uterine diseases in which there is change of tissue, as hyperplasia of the mucous membrane and muscular wall, is surgical; that is, it consists in the topical application of caustics, absorbifacients, or antiseptics, as nitrate of silver, iodine, carbolic acid, bromine, and so forth. These no doubt act in the first place directly *in loco* upon the tissues touched, modifying their state. But what is not so well known, and is rarely if ever designed or contemplated, is that some remedies so applied—notably iodine—are absorbed, and thus may affect the system. Under some conditions, as where the mucous surface is large, or when the epithelium investment is lost, or where the quantity of the agent is large, and more especially when the absorbing function is in a state of peculiar activity, the general intoxication may be excessive, even dangerous. No doubt some of you have witnessed instances of this character. But if this law, and the conditions under which it acts, are borne in mind, remedies can generally be so applied as to draw from them both local and constitutional benefits in the happiest manner.

We wish to preface, however, what we purpose shall follow with this thought: It is impossible to draw an arbitrary line that shall clearly separate what are commonly regarded as the special diseases of women from the domain of general pathology. The study of the diseases centered in the sexual systems of women is no more than the application of general pathology to this particular system. Any disease occurring in a woman will almost certainly involve some modification in the work of her sexual system. On the other hand, the ordinary or disturbed work of her sexual system will influence the course of any disease which may assail her, however independent this disease may be in its origin. Still, bearing in mind the foregoing fundamental facts, it may be stated broadly that the diseases of women embrace more especially those morbid processes and mechanical deviations of which the principal seat is in the sexual system; that is, in the ovaries, uterus and breast.

We wish now to call attention to some of the mechanical deviations or displacements of the uterus. We desire to call attention to these displacements from the fact that an observation and experience of thirty-two years as a country practitioner has taught us the humiliating fact that most of those we find engaged in the practice of medicine in the country—and we may as well say sometimes in the cities—are most profoundly ignorant of womb displacements, as well as uterine pathology.

In attempting the discussion of this subject we are met just at the very threshold with what to some seemed an insurmountable difficulty in the fact that practically gynecologists have divided themselves into two great schools with regard to these affections. One of these schools teaches that deviations of the uterus, in whatever direction they occur, whether forwards, backwards, or to either side, form of themselves serious maladies accompanied by definite symptoms, and, as a logical deduction, have their treatment primarily in the endeavor to replace the dislocated organ in its normal position, and maintain its position by mechanical means, or contrivances known as pessaries. The other, and perhaps larger, school holds that versions and flexions are not *per se* the causes of the undoubted symptoms which are met with in the cases in which they are found to be present; that flexions may, and often do, exist without giving rise to any symptoms at all; that in all cases the symptoms may be traced to the uterine engorgement, and congestions which accompany the deviation, and are their primary cause, and that therefore, it is unnecessary to pay any attention to the displacement, which may be left to itself, while associated conditions are remedied by appropriate treatment. As is generally the case in such controversies, it is probable that neither side is entirely in the right, and that the truth is to be found between the two; and, as it seems to be the fate of every important doctrine to be turned into a paradox by some crotchety man of talent, and by a natural process of reaction, one startling paradox soon works another of an opposite tendency, it is essentially important that every man who pretends to treat diseases of women avail himself of all the aids at his command, that he may be thereby enabled to avoid the buoys that mark the rocks of a dangerous channel, and that may keep him in the golden medium line of safety in theory and practice.

The subject-matter of this report has been so recently reclaimed that great diversity of opinion might have been expected, and the rediculous importance attached to the womb's deviating slightly from its usual position, is said to have so irritated Cruveilhier that he declared the womb to be always on the move and without a determined position.

In discussing the cause of displacements it will be well, perhaps, to notice first the anatomy of the uterus, its location, and so forth, together with that of some of its principal annexa. In the healthy state the uterus is situated high in the pelvic cavity, its fundus projecting somewhat above the plane of the pelvic brim, to the axis of which—that is to a line drawn from the umbilicus to the coccyx—its own axis corresponds. It is maintained in this position partly by the muscular columns of the vagina below, on which it is, as it were, poised; partly by the folds of the peritoneum forming Douglas' pouch behind, especially that portion of them called the utero-sacral ligaments; and partly by fibrous portions of pelvic fascia in front, attached to the pubes and passing by the side of the bladder. These are fixed to the uterus above the points of juncture of the internal os with its body, which is therefore the part of the organ least lia-

ble to change of position, and that at which flexions almost invariably take place. The fundus and body are much more mobile, but their movements are somewhat controlled by the round ligaments in front and the broad ligaments at the side. The shape of the uterus is further maintained by the well marked inherent rigidity of its tissue, and when this is altered by disease, or by congestion, sub-involution, and the like, displacements are much more liable to occur. The axis of the uterus is naturally apt to alter its position under various conditions. Thus it falls less or more forward or backward, according as the bladder or bowel is distended or otherwise. The uterus is also so placed that it ascends and descends with more or less freedom, and, as it does so, its axis corresponds with the axis of the plane of that part of the pelvis in which it lies. This fact has been especially pointed out by some recent gynecologist, and goes far to explain why similar causes should at one period produce a forward, and at another a backward, displacement. The causes of displacement are chiefly any condition which weakens the supports, or the resisting power of the uterus. They are therefore most frequently found in association with the results of parturition, sub-involution, congestion, hyperplasia and endo-metritis, which all diminish the inherent tonicity of the uterine walls, as well as weaken its supports, and prevent its regaining its natural shape when accidentally altered. The displacement itself may be caused or favored by a variety of conditions, such as blows, falls, tight clothing, fibroid tumors developed in the uterine walls, and many other analogous conditions.

When a flexion has been produced the venous capillaries at the point of flexion are more or less obstructed and the return of blood through them hindered, while the arteries continue to supply blood. The fundus therefore becomes congested, and subsequent structural alterations are developed. This explains the fact that even when flexions are secondary it is impossible to treat them satisfactorily by general means alone, and that in course of time a flexion originally secondary in its causation, may require to be the chief object of treatment.

In no other part of the body, as the result of disease, can so large an amount of blood be received within the same space, as in the female pelvis. As the veins are without valves it is necessary that their course should be an extremely tortuous one to overcome the effect of gravity. It has been observed that, when sufficient traction is made upon one of these veins to render its tortuous course a straight one, its diameter becomes enlarged and the whole vessel is distended with an increase quantity of blood. The arteries are not so readily acted upon, and their more unyielding walls protect them under a greater degree of traction. But in response to the irritation attending the condition of prolapse, or flexion as the case may be, more blood flows to the parts, and the increased action of the arteries thus aids in producing the over-distended condition of the veins, and at a time when they have already lost the

power of fully emptying themselves. It is, therefore evident that, as soon as a woman suffers from a prolapse sufficient in extent to straighten out the convoluted course of the veins they dilute rapidly, and with the increase in caliber they become receptacles of almost stagnant blood. This is an important factor, and one that should not be forgotten when considering the causation and treatment of uterine flexions or displacements.

In what we may say in regard to treatment of displacements our remarks will be confined to those of an anterior and posterior character.

Anterior and posterior displacements occur we will say in two groups:

1. Displacements in virgins or nulliparæ.
2. Displacements in parous women.

In regard to the first class, the displacements are generally congenital; the anteflexion being in the direction of non-development and the retroflexion in the direction of deformity. These conditions in virgins are not infrequently associated with diseased condition of the annexa, and when they are it is the inflammatory condition of the annexa which requires treatment, and not the congenital deformity or non-development. The progress which gynecology has made in recent years in advancing our knowledge of the uterine annexa has shown conclusively that many cases of pain and dysmenorrhœa, which were formally attributed to uterine displacements are due entirely to conditions of the ovaries and tubes independently of a concurrent displacement which may mean nothing. Deviations in the position of the uterus of minor degree give rise in the single woman to no symptoms, and require therefore, no treatment. Marked versions uncomplicated with some pathological condition, such as a fibroid are rare in single women, and when uncomplicated give rise to very slight symptoms, and need no mechanical interference. When the flexion backwards or forwards is very acute, it may be associated with severe dysmenorrhœa. Even admitting that these displacements in virgins give rise to some discomfort what treatment is at our disposal? Vaginal pessaries are seldom if ever curative, and intra-uterine stem pessaries are surrounded with so much risk in the direction of inflammation, hæmatocele and ovaritis, that their use has been discarded by all of our later and better informed gynecologists. But, the question naturally arises as to the treatment and cure of the dysmenorrhœa, which unquestionably is often associated with, although not necessarily dependent on, these displacements. Is no mechanical treatment to be adopted? There is too great a tendency to local interference for dysmenorrhœa in virgins. When, however, local examination and treatment becomes necessary, the vaginal pessaries are of little avail, and intra-uterine stem pessaries are not only unsafe, but absolutely dangerous. Dilatation of the cervix with a dilator bougie or an occasional cautious passage of the sound, with the persistent use of the hot vaginal douche will often effect a cure both effectively and safely. But we must be permitted to enter our protest against the indiscriminate use of the sound and dilators, unless accompanied by careful precautions; and those

are (1) that there exist no recent or remote peri-uterine inflammation; (2) that the greatest care be taken as to the perfect cleanliness of the instrument. So far as rapid dilation for the relief of dysmenorrhœa is concerned we think it not only useless and unwarranted, but absolutely barbarous.

If there be the least pathological condition to be found in the annexa, there should be no mechanical treatment. But, you ask, and very appropriately so, what is the general practitioner to do in such cases? If he considers the future well-being of his patient, our advice is, let such cases alone, so far as making any attempt to correct the displacement by the use of mechanical means is concerned. When he finds it absolutely necessary to undertake some mode of treatment let him confine his local interference strictly to the application of iodine with one or more cotton and glycerine pads properly placed to give the needed support, and to the use of hot water vaginal injections.

With regard to parous women the case stands differently. In them, unlike the others, the displacements are usually, if not always, acquired. In the case of anteflexion and anteversion, which in parous women are so often induced by various forms of peri and para-metritis, and by inflammation of utero-sacral ligaments specially, mechanical means in the shape of pessaries are seldom indicated. The sphere for anteversion and anteflexion pessaries in parous women—if, indeed, they have a sphere at all—must be when the displacement does not depend upon any inflammatory condition outside the uterus, but is solely due to an increase of weight. Even in such cases, which are rare, the trouble and annoyance to both physician and patient attending their use is more than sufficient to outweigh their temporary comfort.

Of stem pessaries in forward displacements of the uterus in parous women we have to say that they are not only not desirable but really harmful. The majority of these anterior displacements give rise to very unimportant symptoms. When they do, the symptoms are due to some inflammatory products outside the uterus, and the treatment is to be directed to its removal, (1) by the hot vaginal douche; (2) by blisters; (3) by iodine applied to the vaginal roof; and (4) by small doses of iodide of potassium and per chloride of mercury internally. Sometimes a soft glycerine ring pessary, by relieving tension and elevating, may do good, but as a rule even this is contra-indicated.

Coming now to posterior displacements in parous women, namely retroversion and retroflexion, we are bound to recognize the fact that they are specially prone to arise mechanically. This will appear obvious if we consider the frequency with which these conditions occur after pregnancy as a result of imperfect involution, dorsal decubitus, increase in weight, and too early rising. The origin of these parous posterior displacements being usually though not always mechanical, and the symptoms to which they give rise, such as sterility, leucorrhœa, menorrhagia, and pressure, to a greater or less extent being well recognized, their treatment must be mainly based on mechanical principles. 1. Tone must be given to the uterus by the

use ergot and hot-water douching; 2, the uterus must be carefully adjusted in one of several ways; (1) by pressing up the fundus; (2) by pressing back the cervix; (3) by the genu-pectoral position; (4) by dragging down the lip of the cervix with a volsella, and lastly by the sound. In many cases, accurate and careful reposition of the uterus in any of the ways mentioned is essential. The sound is placed last because of the fact that bi-manual replacement of the uterus is the safest and most thorough, and because the introduction of anybody into the *cavum uteri* is always to be avoided when practical. It is wise to proceed with great care after the reduction of a retroversion of long standing. Whenever much difficulty has been encountered, or much pain has been produced in replacing a retroverted or retroflexed uterus, a large hot-water vaginal injection should be administered immediately, followed by a glycerine dressing in the vagina, a good dose of opium, and the patient kept in bed at absolute rest for at least twenty-four hours. If this treatment is pursued there need be no dread of exciting cellutitis, which has formerly been the case, when less care was taken to guard against it. Hot water is invaluable in the treatment of all stages of inflammation involving the cellular or connective tissue of the pelvis, in lymphangitis, in phlebitis, and in the early stages of pelvic peritonitis. After all acute symptoms have well subsided the systematic and careful tamponing the vagina with carefully prepared cotton-wool is the best treatment that can be adopted to compress the dilated veins, to lift and maintain the uterus in the natural position in the pelvis, and thus equalize the circulation in the arteries and veins.

While it has not been our intention to say anything in regard to surgical gynecology or what you might term the bigger operations connected with uterine and ovarian troubles, yet it will be well perhaps for us to say something about Alexander's operation for the cure of uterine displacements. This operation consists in shortening the round ligaments and is becoming quite fashionable in our country.

I presume that every member of this Society understands that the operation of shortening the round ligaments consist in dissecting down upon the external abdominal ring; catching up the terminal fibres of the round ligaments as they appear there; pulling out as much of them as suffices to restore a displaced uterus to something like its normal position, and stitching the shortened ligaments to the pillows of the external ring.

This operation was first performed by Dr. Wm. Alexander of Scotland, December 14, 1881, from that time up to the meeting of the Ninth International Medical Congress he had operated eighty-four times. Since the time of this first operation many of our own distinguished gynecologists have taken to the operation, and it has been performed a great many times here, so that we may well say that it has become the fashionable gynecological craze of the day.

A new surgical venture is a very enticing thing to most men, and ambitious gynecologists do not constitute an exception to the rule. An operation how-

ever meritorious in itself, and of paramount value in the hands of men qualified to adopt it, becomes almost criminal when it assumes a fashionable garb. One distinguished gynecologist in this country, and a very enthusiastic follower of Dr. Alexander, has said: "Until recently the treatment of retroversion of the uterus had been a standing reproach to gynecology." Enthusiasm has marked each era in the history of medicine, which is apt to become pernicious in proportion as it assumes over-ruling preponderance, and that this operation will fall, or not fall under the ban is yet to be ascertained. The value of any surgical measure can only be determined or approximated by the aggregate of all results. The remote results of this operation—that is, the results observed not less than twelve months after the operation—are not satisfactory.

Gentlemen of the Society, it is impossible for us all to be Taits or Schroders, or Emmets and Keiths, or August Martins and Alexanders. It requires something more than a mastery of anatomy and a deft hand to operate well and successfully, and for those who have not the peculiar gifts and characteristics that form an essential part in the makeup of the surgeon, there remains a field equally as large and in which the results will be quite as brilliant. Somebody must do the work. The great body of gynecologists are more competent to its successful accomplishment than they are to deal with abdominal sections, and he who battles with pain, conquers it and carries the woman through life with all her organs intact, is quite as worthy of praise as the great surgeon who brilliantly removes the offending organ. This is conservative gynecology versus surgical gynecology, and he who succeeds best in its accomplishment is the grandest hero of them all.

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ONE OF THE MATERNAL DYSTOCIÆ.

R. G. JENNINGS, M. D.,
LITTLE ROCK.

In entering upon the consideration of this subject, a due sense of propriety demands that the writer should candidly acknowledge his inability in a necessarily limited article, to either contribute to your entertainment upon this occasion, or enlighten your understanding of an abnormal condition of nature that may never confront you, *vis a vis*, in a whole active professional life. Yet, the very fact that in a certain proportion of cases it has been met with, and what has once occurred may happen again, conditions being similar, induces me, herewith, not only to record my individual experience in the single instance that had confronted me in a general practice of thirty-two years, but also to collect briefly what distinguished obstetricians and practitioners record on this point, and their procedure and management thereof. But before advancing further it is but proper that we entertain a clear understanding of the definite meaning, and classification of this subject presented to you.

"Under the term dystocia is included all the causes which may render labor difficult, impossible, or dangerous for the mother and child, and which consequently require more or less interference on the part of the obstetrician."

These causes for convenience of consideration are generally grouped under several heads, and each of these subdivided appropriately to embrace every abnormal condition known to exist, and mark a deviation from the normal or natural course of labor. Dystocia, therefore, may be wholly maternal, *i. e.*, emanate from the mother, or we may have dystocia from accidents connected directly with the fœtus, such as prolapsus of the funis or extremeties, abnormal size, or malformation of the fœtus or its attachments. In the former or the dystocia arising from maternal causes, we may have abnormal uterine contractions, malformation of the reproductive organs, obstructions of the natural cavities and passages by tumors, or morbid growths, various hernias, obliterations, deviations, induration, swellings, local structural diseases, etc., all requiring subdivisions for accuracy of description, and constituting serious impediments to natural progress of gestation. But neither of these dystociæ is the one designed for your present consideration. There is a long line of complications incident to conception and its legitimate growth and progress during the period of gestation, chief, perhaps, of which is the abnormal implantation of the placenta and the difficulties attending the management of labor with this association—the maternal dystocia to which we now invite your special attention.

Sunday, August 21, 1887, at 3 o'clock a. m., I was called to see a Mrs. H. 24 years of age, a multipara. I had attended this lady during a severe attack of remittent fever, the month preceding—July; the date of that service rela-

tively corresponding with this summons. Indeed I could conscientiously state that she had never been *perfectly* well since July 21, 1887, though she had been able to be up about the house, and had personally performed all the household duties of a small family devolving upon her. The July attack at the onset was thought to have been superinduced by a nervous shock, and subsequent mental anxiety for her husband, who had been brought from Texarkana with a congestive chill, which was followed with a very severe type of pernicious fever. He made a fair recovery, and while convalescing, she was seized with a savage chill, followed by a high grade of fever of a remittent form. She had great gastric excitement with slight symptoms of abortion, these being attributable at the time more to a sequence of the former, than to any other recognized cause. The latter symptoms subsided as the fever decreased, and she apparently made a fair recovery without any very decided injurious consequences; in fact, she seemed quite well for the condition of an eighth month parturient, though she presented an anæmic appearance, was extremely palè, and complained of great weakness.

I found her at this early morning summons almost exsanguinated; blood was being ejected by gushes or jets with great force, and great clots had formed in the vagina and been expelled. As soon as I could wash my hands and anoint my fingers with lard, I made a digital examination and was astonished to find that the os uteri was scarcely dilated a particle, only sufficiently to permit a stream of blood about the size of the diameter of a small quill. I made all the pressure possible with my fingers, but could only feel a soft pulpous mass, where I expected to find the head of the fœtus. I further endeavored to force my index finger into os uteri, but found I could not do so beyond the pulp-end of the finger; my design being to forcibly dilate the os and separate the placenta from the uterus, and thus get my finger over the border and pass it to one side. In this procedure I could not succeed, as whenever I forced the finger upon the os the whole soft mass would be *pressed* upwards beyond my reach, and I soon became convinced that the implantation of the placenta was *directly* central over the mouth of the os uteri, and that there was not the slightest uterine contraction that I could detect. I confess I now felt somewhat nonplused as to the best course of action to adopt for the safety of the woman, then almost in a moribund condition, nearly completely exsanguinated from the great loss of blood. There was no one to go for assistance, and not a moment of time for reflection. I was fully cognizant of the status of affairs with which I had to contend, and that whatever I had to do must be done quickly and at once. The hemorrhage *must be arrested at all hazzards*, and I commenced packing the vagina with strips of old cotton cloth saturated in a solution of alum, the only astringent at command. I had but a single assistant, and this by no means a very competent one, and hence the tamponing of the vagina was, under the pressure of the circumstances, no simple task, but I nevertheless succeeded perfectly, and to my entire satisfaction.

When first impressed with the fact that I had a true central implantation of the placenta, without uterine contractions, and a semi-rigid os, through which the life-blood of the woman was passing rapidly to contend with, I thought my only hope, with the environments, was to forcibly dilate the os, penetrate with my hand directly through the placenta, if I could not find the border of it and surround it; rupture the membranes, seize the feet and by version bring down the child, arresting the hemorrhage with the pressure of the child. The rigid condition of the os would not permit this procedure, therefore the next best thing I could do would be the use of the tampon, thereby arresting the hemorrhage, promoting dilitation of the os uteri, and through the action of the blood itself induce contractions of this organ. My first design as stated, was unsuccessful, while the result of the latter was as satisfactory as could be expected or desired. I now felt a sense of temporary relief, but this was instantly shaded with a doubt of the most judicious course of treatment to be pursued. Should ergot be given in this condition? was the question that presented itself to me. I could but answer yes, just as I would in any hemorrhage from any other organ or tissue, but not for its oxytoxic purposes while the os uteri remained rigid and unopened. So I gave it, though not alone, but in conjunction with full doses of quinine, which was repeated as often as deemed essential in combination with opium. These measures in connection with the tampon arrested hemorrhage completely, and the patient fell into a quiet repose without uterine contractions, which lasted throughout the day with intervals of nervous irritation and seeming great anxiety, though nothing that marked any special impression or change in the circulatory system. Her pulse remained small, thready, occasionally spasmodic, and easily compressible. At times she was quite cheerful, and was hopeful of herself, though previously to this hemorrhagic attack she had been gloomy and despondent. This condition continued until past midnight, or the morning of the 22nd, when slight uterine contractions became manifest. About twenty-four hours had passed since the hemorrhage began, and although I had informed the husband of the great danger incident to this trouble, and also the plain truth that this was the first case of this character that I had ever met with in my whole professional career, and that I desired consultation; yet he seemed reluctant to go for some one until this stage of the progress of the case, when I directly requested him to go for Dr. J. A. Dibrell of this city. He responded promptly, and upon his arrival was informed by me of the true character of the case, the steps I had taken and the course pursued to this date. The tampon was at once removed, the hemorrhage was found to have *absolutely* ceased, and the os uteri fully dilated. We decided to proceed at once to delivery at all hazzards. I introduced my hand into the vagina and endeavored to find the border or edge of the placenta, detach it gradually and force it to one side, seize the feet, turn and deliver, but the border could not be reached in either direction, and I consequently pushed my fingers directly through the body of the placenta

and was soon able to deliver this entire organ preceding the fœtus, something I had never done, or known to have been done or take place during all my observation and experience. The loss of blood in this operation was very much less than we had anticipated, really being very limited, because probably she had very little more blood left her. Uterine contractions increased in strength somewhat, and in making an effort to perform podalic version I found the head of the fœtus had rotated into position, so that in a short time Dr. Dibrell successfully delivered the child with the forceps.

There had been some loss of blood, but it would not have been considered sufficient to cause the least uneasiness had the case not been preceded by the extraordinary hemorrhage stated. The uterine organ slowly yet steadily contracted, and we began to entertain some little hope, that the patient might ultimately recover. The fœtus was dead when delivered. The woman had been bandaged, and stimulants, which had been cautiously, yet frequently given from the time the case was first seen, were continued, and quinine, opium and camphor in small doses were also administered at stated intervals.

Some little re-action followed, the skin became warm and moist, and the pulse began to assume a little more volume though extremely soft and feeble. She slept, or rather dozed at intervals until about 5 o'clock in the afternoon. I noticed a decided change for the worse, the circulation ceased quite suddenly, and could not be felt at the wrists—the heart's action became oppressed, and a gaseous sound could only be heard over this organ, the breathing became very rapid and short, and death resulted in a very few moments after the change was noted, from what I believed to be thrombus or heart clot.

This, gentlemen, was the fearful experience, the first I had ever encountered, of a maternal dystocia of the central implantation of the placenta with the fatal termination stated. I have had quite a number of cases of partial placenta prævia, and could always manage to find the margin of this organ and push it to one side, without any very serious loss of blood to the parturient. This experience caused me to examine all the authority I could readily command upon this subject, which I will, to a limited extent, briefly place before you, so that you may profit by it and feel, as I candidly acknowledge I did not, fully prepared, qualified and equipped to grapple with and successfully manage a dystocia of the character I have irregularly narrated to you.

I find the literature on this subject of placenta prævia quite profuse in the journals I have had the leisure to examine; a great number of individual cases are reported by practitioners, yet very few of them seem other than partial implantation. The preponderance of authors place the natural or normal attachment of the placenta to the posterior wall of the body of the uterus. It may vary from this point, *i. e.*, it may be attached to the fundus uteri which Baudelocque as early as 1824, asserted to be its natural situ. But as far as our purpose is concerned, any variation in the placental attachment other than the lower or inferior segment, while to a certain degree, it may be considered de-

viations from the more usual or normal situ, yet as they are not attended with any unusual or unnatural phenomena to cause excitement or alarm, they pass unnoticed, and are not considered of special importance. Therefore, to have an abnormal placental attachment it must be implanted not only in the lower and inferior segment, but near enough to the os uteri to be liable to accident; or rather must partially or wholly cover it, says one distinguished author. When therefore, it is attached *directly* over the cervix, so that the os is *entirely* covered we have *total or central* implantation. When inserted in the lower and inferior segment, and over the cervix so as to partially cover the os, we have *partial* placenta prævia, but when inserted at the lower segment so near to the cervix, that it slightly encroaches upon the os, we have marginal placenta prævia. Thus a dystocia of this character may be either partial, marginal or central, and yet be chronicled and classed as a placenta previa. The two former *i. e.*, marginal or partial placenta prævia are of very frequent occurrence, and consequently more commonly encountered in practice than the latter or central implantation. The former are subject to easier control and management than the latter, and by no means presents the dismal record attendant upon the latter.

We do not propose to enter into the speculative field of asserted causes that produce this abnormal condition, it suffices for us to know that they are occasionally stumbled against often to our serious inconvenience, and perhaps sometimes to the injury or detriment of our professional reputation.

As to the frequency of placenta prævia, Muller reports 813 cases of placenta prævia among 876,432 lying in women, or one case in 1,078. He does not state that all these were central implantations, but only mentions them as placenta prævia cases, and hence we can hardly imply that they were wholly central. The natural inference would be that they were marginal, partial and central. Dr. Senteny in a discussion at a stated meeting of the Louisville Medico-Chirurgical Society, January, 1881, said that statistics upon this subject, placenta prævia, like other subjects were unreliable; that in forty years of practice, a careful estimate of the number of obstetrical cases he had attended during that period was over 1,400, he had never met with but *one case of complete* or central implantation. He had met with a number of others of a partial or marginal character, but experienced little trouble in their management. In the complete or central case both mother and child were lost.

Naegley gives the proportion of cases occurring in practice as about an average of one in 600. Unquestionably the proportion of cases of central implantation are extremely small, and like angels' visits far apart, while partial and marginal attachments are much more frequently met with. I have attended quite a number of cases of the latter two forms, and have heard other practitioners make a similar statement, but I have never known any physician in the city of Little Rock, state that they attended a case of the central implantation, and I am quite confident that nothing of the kind has ever been reported in our local organization.

TALLIAFERRO'S OPERATION.

C. S. GRAY, M. D.,
FAYETTEVILLE.

We have all been made more or less familiar through Journal reports with what is known as Talliaferro's treatment of uterine displacements and the plastic exudations existing therewith. This treatment consists, after douching the vagina with hot water, in packing that cavity with some elastic material, which by constant pressure promotes absorption of the exudates and enables the uterus to be replaced in its normal position.

Talliaferro used absorbent cotton as a packing material. Pallen, with the same idea in view, has used clay; other gynecologists have shown a decided preference for prepared sheep's wool, while Emmet has expressed his authoritative opinion in favor of the ordinary cotton batting. This treatment, as I understand its history, was applied by its originator to the vagina and uterus while the uterus, though displaced, was entirely within the cavity of the vagina, and not, as in the case which I propose to report, when the downward displacement of uterus was so great that all of the neck or vaginal portion of that organ was protruding through the vulval opening.

On January 21, I was asked to prescribe for Mrs. F. On the history given by the messenger I prescribed for an irritable bladder and thought no more of the case. Two days afterward I was asked to visit the same lady, who was reported as still suffering with pain in abdomen. I found the patient, a stranger, dressed and lying on the bed, complaining of pain in the lower part of abdomen. She was married, 53 years of age, had borne one child who was still living, 21 years old. Had sometime ago passed the climacteric. She said that she had had at intervals for years falling of the womb, to which condition she seemed to attach no importance. Otherwise she stated that she had always enjoyed good health. I soon determined that the pain complained of resulted from vesical straining. Deeming it best to make a digital examination of the vagina, I proceeded to do so, when my hand came in contact with an obstruction at the vulval opening, which I discovered to be the neck of uterus, and which was protruding 1¼ inches from the vulva. In this position the uterus was immovably fixed by the plastic exudates which had been thrown around it during a previous attack of pelvic cellulitis. Complicating this condition was a prolapsed anterior vaginal wall. Of course the bladder had been dragged from its normal situation and cystocele was the result. Cystitis had been produced by residual urine, accounting for the bladder pain. How long this condition had existed I was then and am yet unable to determine. Her own statement, which a more intimate acquaintance with her since has caused me to regard as almost valueless, was to the effect that she had been in con-

dition as described three months, during which time, at least during the greater part of it, she had performed the ordinary duties of housekeeping. Her husband, who by the way, I find the much more reliable of the two, dates her condition back a month and a half longer than she, when he says she was confined to her bed for two weeks with fever. There were certain evidences which went to show that the uterus had occupied this situation of extreme dislocation for quite a long time. The mucous covering of the protruding part manifested pigmentary deposits, and had indeed lost to a degree the appearance of mucous membrane, presenting a remarkable likeness to epidermis; temperature was normal, digital examination disclosed the presence of exudates; no tenderness or other evidence of the slightest degree of active inflammation was to be discovered. I placed the patient in the most favorable positions for reduction of displacement, making careful but persistent efforts to that end, but met with no success. In a few days I requested Dr. H. D. Wood to see this patient with me, when she was again placed in the knee-chest position and reduction attempted, but nothing could be accomplished.

At this consultation it was determined to try elastic compression; this course was decided upon with little hope of success, but for the reason that the procedure suggested itself as a proper one before resorting to the extreme measure of amputation of the uterine cervix, which operation seemed so inevitable that I explained it fully to the patient, whose consent was obtained to its performance in the event of failure in the compression treatment. Prepared wool was the material used for packing the space around the uterus, for the reasons that it possesses great elasticity, does not readily absorb the vaginal discharges, consequently maintains well the elasticity of its individual fibres, exerts an equal degree of pressure in all directions and is easily kept in place. The mucous surface of vagina was smeared with vaseline, especially the posterior wall and cul de sac, and carefully tamponed with wool; the prolapsed anterior wall was pushed back and retained in place by a pledget of the wool. Over the projecting part was placed a layer (thin layer) of absorbent cotton, the part being first smeared with vaseline, and over the cotton and around the cervix, was put a layer of the wool three inches thick; a T bandage was thrown over this, which served the double purpose of holding it in place and exerting constant, but gentle pressure. The vaginal packing was removed once in twenty-four hours, while the wool and cotton applied externally was changed morning and night, at which times the patient was catheterized and the bladder washed out with a solution of biborate of soda; ebrasions and other evidences of irritation from pressure on the cervix were closely watched for; nothing of the kind however occurred. This treatment was persisted in constantly for three weeks, and just when I was about to dispair of accomplishing good, the uterus manifested slight mobility. This was the dawn of success; gradually the adhesions yielded. In six weeks from the time of beginning treatment I could return the uterus entirely within the vagina and in about two

months I was enabled to restore the organ to something like its normal position, where I am attempting to maintain it by the means of a soft rubber pessary. A most valuable aid to this treatment has been the vaginal douch of hot water; indeed, the fact cannot be questioned that without it, the so-called Talliaferro's method would not accomplish what is claimed for it. I propose now to perform anterior elytronaphy, thereby offer a support for the uterus and relieve the prolapsus of the anterior vaginal wall. The cystitis, which is still considerable, is being treated by daily washing the bladder out with the biborate of soda solution. The constitutional medication in this case consisted chiefly in tonics and gentle laxatives.

Gentlemen, this has been to me a most interesting case; 1st, because of the extreme degree of displacement, and the probable long duration of it, and again because it illustrates what may be accomplished in stimulating the absorption of inflammatory products by pressure, constant, gentle and elastic. Again, this is one of the cases in gynecology where I am convinced that good results have been attained. I am free to confess that I think we have too much gynecology these days, at least of a certain kind. Slight and sometimes considerable departures from the health line may be made by the uterus. Especially as the results of inflammatory processes, exudates, serious in proportions, may be thrown around the organ and still spontaneous absorption and reduction occur, but in the case just reported nature unaided would have been powerless to bring about such results. In conclusion, let me say, Mr. President, that active inflammation to any degree in the immediate celular environments of the uterus should contraindicate this treatment.

REPORT OF COMMITTEE ON NECROLOGY.

It is with sorrow and regret that we are called upon to report the death of three of the brightest, most devoted and earnest workers of the State Society.

Dr. A. N. Carrigan of Washington, Hempstead county, died at his home in Washington, after ten days' painful suffering of pneumonia, on December 4, 1887. He was born in Cabarras county, North Carolina, January 3, 1828. He was educated at Oglethorp University, Georgia, and graduated in medicine at Charleston, South Carolina, in 1856. He commenced the practice of medicine in Union county, North Carolina, but in January, 1857, moved to Batesville, Arkansas. Not being satisfied with that location, he moved in the same year to Union county, Arkansas. On December 16, 1858, he married M. J. Reed of Union county, who now survives him. At the breaking out of the war, he gave up his practice and entered the army. Shortly after the close of the war, he moved to Texas, but returned again to Union county, Arkansas, in 1874, and then to Washington, Hempstead county, in 1875, where he continued to practice his profession until the time of his death. He was devoted to his profession and followed it not alone for pecuniary considerations, but for the good that he might do his fellow men. He was a close student, read much and kept well abreast of the rapid developments and discoveries in the various and numerous departments of medical science. He was devoted and zealous in his attachments, obedient to the code of medical ethics and unyielding in his opposition to any infringement and disregard of its precepts and teachings. He was the firm and steadfast friend of this Society and organized medicine everywhere, as evidenced by his able plea for organized medicine read before this Society at its last meeting. He was president of the State Society in 1878, and was a regular attendant upon the meetings. He was also a member of the American Medical Association and of the Ninth International Congress.

Dr. Carrigan was a prominent and devoted member of the Presbyterian church. Whatever capacity he was called upon to fill, in the various walks of life, he always discharged the duties honorably, efficiently. By his death the profession has lost one of its most earnest workers, and the State Society an honored member.

[We are indebted to the kindness of Dr. Hart of Washington, for necessary information in regard to Dr. A. N. Carrigan's death, etc.]

Dr. D. E. Byrd died at his home in Marvell, Ark., after a short illness, from congestion of the lungs on the 25th day of January, 1888, at 4 o'clock a. m.

He graduated in medicine in the year 1863 from the Richmond Medical College. He was born in 1840 in Colleton District, South Carolina, and was forty-seven years old. While attending lectures at Charleston, the war began,

so he entered the army and passed through all the trials and vicissitudes of such a life. He was wounded at the battle of Manassas, and taken from the field to Richmond. As soon as he was able he was placed in charge of a South Carolina soldiers' hospital, and attended lectures at the Richmond Medical College and graduated in 1863. He practiced for a short time after the war in his native State, then moved to Virginia and married and settled there. In the year 1870 he moved to Phillips county, Ark., and settled at Marvell, his recent home. In 1882 he espoused the cause of religion and united himself with the Christian church. He has been devoted to the profession he loved, and practiced the healing art more for the good he could do his fellow man than for the compensation. He gave valuable assistance in the organization of this Society; he was also a member of the American Medical Association and of the Ninth International Congress. But his career is ended. In the vigor of manhood and usefulness he has drawn the drapery of his couch about him and laid down to pleasant dreams.

MEMOIR OF WILLIAM HARRISON HAWKINS, M. D., BY R. G. JENNINGS, M. D., LITTLE ROCK.

William Harrison Hawkins was born November 25, 1832, in Franklin county, N. C. He was descended from a long line of English ancestry, the founder of the American branch having settled in Virginia and subsequently in old Bute county, North Carolina, where he was high sheriff of the province at the commencement of the revolutionary war. The subject of this sketch, William Harrison, after an ordinary primary education, derived mainly from a few irregular private instructors, was sent to the University of South Carolina, and afterward graduated from the medical department of the University of Pennsylvania, in March, A. D. 1857.

He first settled in Memphis, Tenn., and entered upon the practice of medicine there, but removed to Rocky Comfort, in Little River county, Arkansas, in 1860, where his father, Col. Benjamin Hawkins, then resided. When the war between the States begun, Dr. Hawkins joined the Confederate States' forces as surgeon of the First Texas legion, afterwards attached to the Army of Tennessee, where he became surgeon of Manigault's brigade, continuing to serve as surgeon throughout the whole term of the war. Upon the collapse of the Confederacy, Dr. H. returned to Rocky Comfort, Arkansas, and resumed the practice of medicine, remaining here untill about six years ago, when he removed to the active, growing commercial city of Texarkana, where he continued to reside until his demise.

Dr. Hawkins possessed very strong natural endowments, had been an extensive reader of miscellaneous literature, was a close observer of human character, and entertained liberal and broad views upon all the general questions of the day. He was a member of the State Medical Association and afterwards of the State Medical Society, in which organization he was its

Vice-President in 1878-9, and President in 1885-6. He was the organizer of the Little River County Medical Society, a steady attendant at its stated meetings and presided over its deliberations. He also connected himself with the Miller County Medical Society and was a member and regular attendant of the American Medical Association since 1879.

Dr. H. was an earnest, faithful worker for the maintenance of organized medicine, and was a thorough believer in the great objects to be attained through concert of action of all the true medical gentlemen in the State, through their local and county societies. The past two years he, with other members of a committee from the State Medical Society, manfully endeavored, though ineffectually, to obtain State aid, for the purpose of establishing a State hospital for the treatment of those unfortunates, who by their own indiscretions or the vicissitudes of fortune, were unable to provide for themselves under their affliction.

Dr. H. was eminently a practical man, was possessed of a good judgment and consequently was a thorough physician—one universally loved by all his friends and patrons. He was generous in thought and deed, upright and honest in his convictions; and in his every day walk in life, strong and faithful in his friendships and equally as unforgiving and bitter in his enmities. He loved his profession sincerely, though early in his professional career he exhibited great predeliction for surgery; however, in later years it was as a general practitioner that all his powers became developed and acquired for him that honorable distinction and great professional success that crowned the last few years of his life. He died September 7, 1887, of chirrosis of the liver, after an indisposition of several months. Dr. H. had anticipated attending the International Medical Congress that convened in Washington City, September 9th, 1887, but was seized with alarming symptoms only a few days previous to the time set for his departure, and which resulted fatally.

October 16, 1872, Dr. H. married Mrs. Medora V. Hart, widow of Dr. Charles V. Hart of New York city, by whom he had one child, a daughter—Katie—who survives him.

His father, Col. Benjamin Hawkins of Rocky Comfort, Ark., has lately followed his son. His wife died in St. Louis, Mo., on the 9th of this month—March, '88—of Bright's disease, and her remains were brought back and buried beside her husband, in the cemetery at Texarkana.

Thus a whole family, except a little fifteen-year-old daughter, have passed into the "*great beyond*" within the last six months, a fatality quite unusual in an individual family.

E. MEEK,
J. W. HAYES,
D. S. MILLS,
Committee.

In Memoriam.

A. N. CARRIGAN, M. D.

SOMETIME PRESIDENT OF THE STATE MEDICAL SOCIETY OF ARKANSAS.

Obit, December 4th, 1887.

In behalf of the members of the Medical Profession in this State, who have labored to advance the cause of medical organization, this page is dedicated to his memory by his collaborators in the State Medical Society.

In Memoriam.

WILLIAM H. HAWKINS, M. D.

SOMETIME PRESIDENT OF THE STATE MEDICAL SOCIETY OF ARKANSAS.

Obit, September 7th, 1887.

In behalf of the Medical Profession of the State, this page is dedicated to his memory by his fellows in the State Medical Society of Arkansas.

In Memoriam.

Abbey, S. F. R., Helena	1875
Alexander, E. H., Pine Bluff	1884
Alexander, O., Rocky Comfort	1880
Bennett, J. E., Fort Smith	1884
Blackrurn, E. M., Ozark	1880
Blocher, C. M., Texarkana	1879
Buford, J. S., Marianna	1877
Byrd, D. E.	1887
Carrigan, A. N.	1887
Cathey, W. L., Alma	1880
Cowling, J. S., Mineral Springs	1885
Crenshaw, H. F. Marianna	1877
Crute, H. P., Chicot	1876
Dale, E. T., Texarkana	1881
Davidson, Benjamin H., Evening Shade	1877
Dungan, D. H., Little Rock	1883
DuVal, E. R., Fort Smith	1885
Easley, E. T., Little Rock	1878
Gray, E. W., Newport	1877
Harrell, W. C., Indian Bay	1877
Hazlewood, James T., Clarendon	1876
Hawkins, W. H.	1887
Hobson, A. W., Hope	1882
Hobson, O. A., Hot Springs	1885
Holcombe, J. M., Pine Bluff	1880
Holmes, R. R., Melford	1879
Hopton, J. G. S., Pendleton	1879
Jones, S. W., Pine Bluff	1879
Jones, J. W., Fayetteville	1886
McAlpine, W. W., Helena	1885
McDowell, Drake, Hot Springs	1882
Morgan, James A., St. Charles	1875
Pangburn, D., Judsonia	1880
Pernot, H. C., Van Buren	1880
Powe, Charles T., Alma	1877
Pulliam, A. J., Patterson Bluff	1885
Reese, R. M., Cincinnati	1877
Rice, F. H., Helena	1875
Stinson, J. A., Jacksonport	1881
Terry, W. L., Little Rock	1876
Thompson, J. B., Eldorado	1885
Trezevant, R. B., Des Arc	1878
Upshaw, William T., LaGrange	1878
Ward, W. T., Des Arc	1876
Watkins, W. H., Newport	1878
Witherspoon. J. P., Little Rock	1883

MEMBERS

OF THE

State Medical Society of Arkansas.

COUNTY.	NAME.	POSTOFFICE.	ALMA MATER.
Baxter	Brewer, A. J.	Mountain Home	University Louisville.
Benton	Bills, A. R	Maysville	Kansas City University.
Benton	Clegg, J. T	Siloam Springs	University of Nashville.
Benton	Coffelt, Theo. A	Pea Ridge	Missouri Medical College.
Benton	Floyd, J. R.	Bloomfield	Memphis Hospital Medical College.
Benton	Hurley, T. W	Bentonville	University Louisiana.
Benton	Rice, T. M	Brightwater	Missouri Medical College.
Boone	Green, S. P	Bellefonte	Missouri Medical College.
Boone	Kirbey, L	Harrison	St. Louis Medical College.
Boone	Routh, H. L	Harrison	Vanderbilt University.
Boone	Vance, A. J	Harrison	Vanderbilt University.
Carroll	Jordan, J. D	Eureka Springs	University Louisville.
Carroll	Reese, W. A	Eureka Springs	Missouri Medical College.
Clark	Cargile, C. H	Okolona	Jefferson Medical College.
Clark	Dale, J. R	Arkadelphia	Jefferson Medical College.
Clark	Moore, A. B	Gurdon	Vanderbilt University.
Clark	Wallis, J. C	Arkadelphia	Jefferson Medical College.
Clark	Wallis, R. S	Arkadelphia	Jefferson Medical College.
Cleveland	Stanfield, C. A	Toledo	Memphis Medical College.
Columbia	Hawkins, J. T	Mt. Holly	University Louisville.
Conway	Sayle, W. A. C	Morrilton	Kentucky School of Medicine.
Conway	White, G. B	Morrilton	University Tennessee.
Craighead	Kitchens, J. H	Jonesboro	University Maryland.
Crawford	Alvis, R. H	Alma	University of Nashville.
Crawford	Bourland, O. M	Van Buren	University of Nashville.
Crawford	Dibrell, J. A., Sr	Van Buren	University Pennsylvania.
Crawford	White, L. C	Van Buren	Maine Medical School.
Dallas	Lantorn, Z. J	Willow	Medical Dep't A. I. U.
Faulkner	Brown, G. S	Conway	Bellevue Hospital Medical College.
Franklin	Amis, W. A	Ozark	Bellevue Hospital Medical College.
Franklin	Blackburn, J. F	Ozark	Vanderbilt University.
Franklin	Turner, H. H	Ozark	Jefferson Medical College.
Franklin	Weaver, E. R	Vesta	Missouri Medical College.
Garland	Fordyce, J. A	Hot Springs	Chicago Medical College.
Garland	Franklin, S. W	Hot Springs	University New York City.
Garland	Gaines, J. H	Hot Springs	University Louisiana.
Garland	Jelks, J. T	Hot Springs	University Nashville.
Garland	Keller, J M	Hot Springs	University Louisville.
Hempstead	B'Shers, S. I	Fulton	University Louisville.
Hempstead	Booker, T. J	Columbus	University St. Louis.
Hempstead	Boyce, M. C	Hope	University Louisiana.
Hempstead	Carrigan, S. M	Washington	Missouri Medical College.
Hempstead	Hart, W. P	Washington	Jefferson Medical College.
Hempstead	McCaskill, A.	Wallaceburg	Mobile Medical College.
Hempstead	Stamps, J. A	Wallaceburg	University Louisville.
Hempstead	Wilson, R. M	Columbus	Missouri Medical College.
Hot Spring	Reamy, S	Malvern	University Louisville.
Hot Spring	Robertson, J. J	Malvern	Atlanta Medical College.
Howard	Barner, W. B	Nashville	College of Phy's and Surg's N. Y.
Howard	Corn, J. S	Center Point	Vanderbilt University.
Howard	Draper, T. J	Mineral Springs	University Louisville.
Independence	Case, J. W	Batesville	Jefferson Medical College.
Independence	Dorr, R. C	Charlotte	Missouri Medical College.
Independence	Ewing, D. C	Batesville	University Louisville.
Independence	Hardister, H. N	Victor	Vanderbilt University.
Independence	Hathcock, A. N.	Hickory Valley	Missouri Medical College.
Independence	Hodges, R. H	Moorefield	University Louisville.

COUNTY.	NAME.	POSTOFFICE.	ALMA MATER.
Independence	Hodges, T. B	Sulphur Rock	University Louisville.
Independence	Jeffrey, Finis	Desha	University Louisville.
Independence	Kennerly, J. H	Newark	University Louisville.
Independence	Lawrence, W. B	Batesville	Jefferson Medical College.
Independence	Lawrence, W. M	Batesville	Missouri Medical College.
Independence	Vaughan, S. L	Sulphur Rock	University Louisville.
Independence	Weaver, M. C	Jamestown	Louisville Medical College.
Izard	Baxter, E. A	Melbourne	University Louisville.
Izard	Watkins, Jno. M	La Crosse	University Nashville.
Izard	Woods, T. J	La Crosse	Kentucky School of Medicine.
Jefferson	Carroll, D. C	Pine Bluff	Medical Dep't A. I. U.
Jefferson	Holmes, L	Pine Bluff	University Pennsylvania.
Jefferson	Loving, A. B	Pine Bluff	University Louisville.
Jefferson	Mills, D. S	Pine Bluff	Memphis Medical College, 1851.
Jefferson	Orto, Z	Pine Bluff	Miama Medical College.
Jefferson	Simmons, J. F	Pine Bluff	Jefferson Medical College.
Jefferson	Tobin, C. P	Pine Bluff	Jefferson Medical College.
Johnson	McKennon, A. M	Clarksville	University Louisiana.
Johnson	Mitchell, J. P	Clarksville	Jefferson Medical College.
Johnson	Montgomery, W. C	Spadra	University Nashville.
Johnson	Robinson, C. E	Clarksville	Jefferson Medical College.
Johnson	Stevenson, Thos	Berlin	Medical Department A. I. U.
Johnson	West, R. B	Hartman	Vanderbilt University.
Johnson	Zachary, B. S	London	Medical Department A. I. U.
Lawrence	Coffman, J. H	Black Rock	University Louisville.
Lawrence	Hatcher, W. J	Imboden	University Nashville.
Lawrence	Henderson, A. G	Imboden	Missouri Medical College.
Lawrence	Minor, J. C	Walnut Ridge	University Virginia.
Lawrence	Rector, N	Smithville	Nashville College Med. and Surgery.
Lawrence	Watkins, W. J	Walnut Ridge	Cincinnati College Med. and Surgery.
Lee	Bradford, W. S	Haynes	Vanderbilt University.
Lee	Drake, D. S	Marianna	Bellevue Hospital Medical College.
Lee	Hayes, J. W	Marianna	Washington University.
Lee	McClendon, J. W	Haynes	University Nashville.
Lee	West, P. C	LaGrange	University Louisville.
Lincoln	Taylor, C. M	South Bend	Transylvania University.
Little River	Sager, L. A	Rocky Comfort	Bellevue Hospital Medical College.
Logan	Merritt, T. D	Magazine	University Louisiana.
Logan	Shibley, J. S	Paris	University Nashville.
Logan	Sipe, J. N	Booneville	Vanderbilt University.
Logan	Smith, J. J	Chismville	Memphis Medical College.
Lonoke	Folsom, I	Lonoke	St. Louis Medical College.
Lonoke	Ross, R. N	Lonoke	University Nashville.
Miller	Spearman, W. C	Texarkana	University Louisville.
Mississippi	McGavock, F. G	McGavock	University Nashville.
Mississippi	Prewitt, R. C	Osceola	Kentucky School of Medicine.
Monroe	Bates, T. H	Brinkley	University Nashville.
Ouachita	Dawson, E. L	Buena Vista	University Louisiana.
Ouachita	Henry, J. T	Millville	University Nashville.
Ouachita	Hudson, G. W	Camden	University Maryland.
Phillips	Burke, F. Noel	Helena	Ohio Medical College.
Phillips	Horner, A. A	Helena	University Pennsylvania.
Phillips	Hughes, A. J	Barton	Louisville, Kentucky.
Phillips	Linthicum, D. A	Helena	St. Louis University.
Phillips	Linthicum, T. C	Helena	Kentucky School of Medicine.
Phillips	McAlpine, Geo	Helena	University Maryland.
Phillips	Vineyard, J. H	Vineyard	Jefferson Medical College.
Pike	Hancock, N. C	New Hope	University Nashville.
Pike	Thomason, N. T	Murfreesboro	Medical Department A. I. U.
Polk	Baker, W. R	Dallas	Cincinnati Medical College.
Pope	Drummond, R. M	Russellville	Vanderbilt University.
Pope	Hill, W. H	Russellville	University Louisville.
Pope	Howell, Andrew R	Russellville	Jefferson Medical College.
Pope	Kirkscey, C. L	Dover	Atlanta Medical College.
Pope	Marberry, W. C	Dover	Missouri Medical College.
Pope	Ruff, D. P	Dover	Nashville Medical College.
Prairie	Hipolite, W. W	Devall's Bluff	University Michigan.
Pulaski	Bentley, E. (U.S.A.)	Little Rock	N. Y. College Phys. and Surgeons.
Pulaski	Bond, J. B	Little Rock	St. Louis Medical College.
Pulaski	Breysacher, A. L	Little Rock	Missouri Medical College.
Pulaski	Christian, R. B	Little Rock	University Virginia.
Pulaski	Dibrell, E. R	Little Rock	University Pennsylvania.
Pulaski	Dibrell, J. A., Jr	Little Rock	University Pennsylvania.
Pulaski	George, A. P	Wrightsville	Missouri Medical College.
Pulaski	Gibson, L. P	Little Rock	Jefferson Medical College.

COUNTY.	NAME.	POSTOFFICE.	ALMA MATER.
Pulaski	Gray, D. A	Little Rock	University Pennsylvania.
Pulaski	Hooper, P. O	Little Rock	Jefferson Medical College.
Pulaski	Jennings, R. G	Little Rock	Maine Medical College.
Pulaski	Lenow, J. H	Little Rock	Jefferson Medical College.
Pulaski	Lindsey, R. W	Little Rock	University Nashville.
Pulaski	McAlmont, J. J	Little Rock	Cleveland, Ohio.
Pulaski	Meek, E.	Argenta	Kansas City College Phys. and Surg.
Pulaski	Murrell, T. E	Little Rock	University Maryland.
Pulaski	Nash, C. E	Little Rock	N. Y. College Phys. and Surg.
Pulaski	Prather, D. J	Little Rock	Louisville Medical College.
Pulaski	Scott, A. H	Little Rock	Jefferson Medical College.
Pulaski	Seaver, J. A	Little Rock	Medical Department A. I. U.
Pulaski	Southall, J. H	Little Rock	University Louisiana.
Pulaski	Stark, L. R	Little Rock	New Orleans School of Medicine.
Pulaski	Thompson, Wm	Little Rock	University Louisville.
Pulaski	Watkins, C	Little Rock	Jefferson Medical College.
Pulaski	Weny, N	Little Rock	St. Louis College Phys. and Surg.
Pulaski	Williams, H. B	Little Rock	University Louisiana.
Saline	Adams, J. W	Benton	University Louisiana.
Scott	Sanford, A. A	Waldron	Vanderbilt University.
Sebastian	Bailey, W. W	Fort Smith	University Michigan.
Sebastian	Blakemore, J. L	Greenwood	Vanderbilt University.
Sebastian	Booth, J. T	Enterprise	Louisville Medical College.
Sebastian	Brewster, A. L	Huntington	Vanderbilt University.
Sebastian	Dunlap, A	Fort Smith	Transylvania University.
Sebastian	Eberle, J. G	Fort Smith	Kentucky School of Medicine.
Sebastian	Evans, W. P	Excelsior	Medical Department A. I. U.
Sebastian	Hatchett, B	Fort Smith	Vanderbilt University.
Sebastian	Gardner, D. M	Fort Smith	Missouri Medical College.
Sebastian	Hynes, Geo. F	Fort Smith	Cleveland Medical College.
Sebastian	Johnson, D. T	Fort Smith	Bellevue Hospital Medical College.
Sebastian	Johnson, F. W	Fort Smith	Missouri Medical College.
Sebastian	Kelleam, J. M	Fort Smith	University Louisville.
Sebastian	King, R. B	Fort Smith	University Louisiana.
Sebastian	Main, J. H. T	Fort Smith	Starling Medical College.
Sebastian	McConnell, J. W	Huntington	Medical Department A. I. U.
Sebastian	McGinty, John	Hackett	Kentucky School of Medicine.
Sebastian	McReynolds, C	Fort Smith	Kentucky School of Medicine.
Sebastian	Phillips, T. E	Fort Smith	Memphis Hospital Medical College.
Sebastian	Saunders, L. L	Fort Smith	Medical Department University Ga.
Sebastian	Southard, J. D	Fort Smith	University Louisville.
St. Francis	Cummings, J. B	Forrest City	Jefferson Medical College.
St. Francis	Matthews, W. J	Forrest City	University Nashville.
St. Francis	Van Patten, P	Forrest City	Iowa University.
Union	Goodwin, W. H	ElDorado	University Louisiana.
Union	McHenry, M. A	Hillsboro	University Louisiana.
Washington	Blackburn, T. W	Boonesboro	Medical Department A. I. U.
Washington	Christian D	Elm Spring	St. Louis Medical College.
Washington	McCormick, E. G	Prairie Grove	Missouri Medical College.
Washington	Gray, C. S	Fayetteville	St. Louis Medical College.
Washington	Pollard, T. J	Fayetteville	Transylvania School of Medicine.
Washington	Webster, J. W	Cincinnati	Missouri Medical College.
Washington	Welch, W. B	Fayetteville	University Nashville.
Washington	Yates, W. N	Cincinnati	Missouri Medical College.
White	Jelks, J. M	Searcy	University Nashville.
White	Jordan, A. C	Beebe	Vanderbilt University.

APPENDIX.

THE CHARTER, CONSTITUTION,

BY-LAWS & RULES OF ORDER.

TOGETHER WITH THE DECISIONS

OF THE

JUDICIAL COUNCILS AND RESOLUTIONS.

CHARTER OF SOCIETY.

STATE OF ARKANSAS,
COUNTY OF PULASKI.

We, P. O. Hooper, James H. Lenow, A. L. Breysacher, J. A. Stinson, D. A. Linthicum, R. G. Jennings, and two hundred others, pursuant to and in conformity with an act of the Legislature of the State of Arkansas, entitled, "An act to provide for the creation and regulation of incorporate companies," approved February 3, 1875; associate ourselves together to form a body politic and corporate, and do certify,

1st. That the corporate name of said Association shall be the "State Medical Society of Arkansas."

2d. That the objects for which such Association is organized are for the diffusion of the science of medicine and its collateral branches, together with a better understanding of the practice of medicine and surgery, and for the mutual improvement of its members.

3d. This Society shall be governed by a Constitution and By-Laws (with legal amendments thereto), to be hereafter adopted.

STATE OF ARKANSAS,
COUNTY OF PULASKI.

WHEREAS, P. O. Hooper, James H. Lenow, A. L. Breysacher, J. A. Stinson, D. A. Linthicum, R. G. Jennings, and others, have filed in the office

of the Clerk of the Circuit Court of Pulaski County their Constitution, or articles of association, in compliance with the provisions of the law, with their petition for incorporation under the name, style and title of "State Medical Society of Arkansas," they are hereby declared a body corporate and politic by the name and style aforesaid, with all the powers, privileges and immunities granted in the law thereto pertaining.

In testimony whereof I have hereunto set my hand and official seal, this 11th day of October, A. D., 1875.

[SEAL.] THOS. H. WALKER, *Clerk.*

CONSTITUTION.

ARTICLE I.

TITLE.

This Association shall be known and distinguished by the name of the State Medical Society of Arkansas.

ARTICLE II.

AUTHORITY, OBJECT AND ETHICS.

The authority of this organization originates and exists solely in the support of its members. This Society shall collectively represent and have cognizance of the common interests of the medical profession in every part of the State. Its chief object is to enable its members to keep pace with the progressive spirit of the age in which we live; and not only in science and practice of medicine and surgery as taught at the present day, but in all those co-ordinate branches inseparably connected with it. The observance of medical ethics will be in strict conformity with the Code of Ethics of the American Medical Association.

ARTICLE III.

MEMBERS.

This Society may embrace as members any physician or surgeon who possesses the qualifications hereinafter specified, and who is a resident practitioner of the State. They shall hold their appointment to membership as delegates from a permanently organized municipal, county or district medical society, as members from counties where no society exists, or as permanent members. But no district medical society shall be entitled to representation which includes within its county or municipal territory any medical society in affiliation with this Society. Delegates shall receive their appointment from local societies within the State. Members from counties without organization shall consist of practitioners of reputable standing. Permanent members shall consist of those delegates and county members who pay their annual dues. They shall belong to a municipal or county society, where such society exists in the county in which said members reside.

No person shall be eligible to membership in this Society who resides within twenty miles of the place of meeting of any county, municipal or district medical society, unless he be a member of said county, municipal or district society.

Members of these classes shall be entitled to an equal participation and voice in all the deliberations of the Society, the delegates present only being

entitled to vote. The basis of representation shall be one vote for each five members of the Society represented, and one vote for the fraction over five members.

ARTICLE IV.

QUALIFICATIONS AND PROCEEDINGS NECESSARY TO OBTAIN MEMBERSHIP.

SECTION 1. The qualifications requisite to be admitted a member of this Society, are:

First—Applicant must possess a good moral character and standing in the community in which he resides.

Second—He must produce satisfactory evidence that he was graduated at some recognized medical college or university of good repute with the American Medical Association.

SEC. 2. The name of each applicant must be presented to the Society by the Committee on Credentials, who will report explicitly such evidence of applicant's graduation and other qualifications as it may be possessed of; and if found objectionable on social, moral or professional grounds his case shall be referred to the Judicial Council, whose action shall be final.

SEC. 3. Every admission to membership must be by ballot, and every applicant receiving three dissenting votes shall be considered as rejected.

ARTICLE V.

OFFICERS—MANNER OF ELECTION AND THEIR DUTIES.

SECTION 1. The officers of this Society shall consist of a President and four Vice-Presidents, Secretary and an Assistant Secretary, a Treasurer and a Librarian.

Officers to be chosen annually by a Nominating Committee, composed of the chairman of each county delegation present, and to serve one year from the close of the session in which they have been chosen.

SEC. 2. It shall be the duty of the President to preside at the meetings, to preserve order, to give the casting vote when the members are equally divided upon questions before the Society, and perform all other duties that custom and parliamentary uasge may require.

SEC. 3. It shall be the duty of the Vice-Presidents to preside in the absence of the President, and at all times to assist the President in the performance of his duty.

SEC. 4. It shall be the duty of the Secretaries to keep a true and faithful record of the proceedings of the meeting, preserve all books and papers, and other property belonging to the archives of the Society; attest all orders drawn on the Treasurer for money appropriated by the Society; keep a register of the members, the date of admission, nativity, place and date of residence; and the Secretary shall be *ex-officio* chairman of the Committee on Publication. They shall attend all committees that may be appointed by this Society with such

documents as may be necessary for reference; report such unfinished business of previous meetings as may appear on the record requiring action; turn over all papers to and render such practical aid and assistance to the Publishing Committee as may be required of them, and attend to such other business as the Society may direct.

SEC. 5. It shall be the duty of the Treasurer to collect all moneys, receipting for same, and to pay out money only by order of the Society, endorsed by the President and attested by the Secretary. At each annual meeting he shall present an account current of all moneys by him received and disbursed.

SEC. 6. It shall be the duty of the Librarian to receive and preserve all the property, in books, journals, pamphlets and manuscripts, presented to or required by the Society; record their titles in a book for the purpose, and acknowledge receipt of same.

SEC. 7. No member of this Society shall be eligible to an election to office who is not present at the annual meeting of the Society at which he is so elected.

ARTICLE VI.

TIME AND PLACE OF MEETING.

SECTION 1. The first meeting of this Society shall be held immediately after the adjournment of this Convention. After this the regular meeting of the Society shall be held annually at such time, in the city of Little Rock, or at any other place within the State of Arkansas, that may be designated by the Society.

ARTICLE VII.

WHAT SHALL CONSTITUTE A QUORUM FOR BUSINESS.

SECTION 1. A quorum to transact business shall not be less than the delegates of three county societies, and in case there should be a want of such a quorum, it shall be within the power of the permanent members to elect from the permanent members present a sufficient number of delegates to constitute a quorum.

ARTICLE VIII.

VACANCIES IN OFFICES AND HOW FILLED.

SECTION 1. In case of death or resignation of any officer of this Society, the vacancy shall be filled by appointment of the President.

ARTICLE IX.

STANDING COMMITTEES.

SECTION 1. The following Standing Committees, each composed of not less than three members, of whom the first named is chairman, shall be appointed by the incoming President, at every annual meeting, for the purpose of preparing and arranging business for the ensuing year, and for the execution of the instructions of the Society, viz.:

A Committee on Arrangements.
A Committee on Credentials.
A Judicial Council.
A Committee on Surgery.
A Committee on the Practice of Medicine.
A Committee on Medical Education.
A Committee on Scientific Communications.
A Committee on Medical Legislation.
A Committee on Gynœcology and Obstetrics.
A Committee on Publication.
A Committee on Necrology.

SEC. 2. These several committees shall report annually, through their chairmen, respectively, upon the specific subjects to which they have been appointed. It shall be the duty of each committee to make a full and complete report to the Society of all matters, business, etc., that properly comes before or presents itself to them, upon each particular branch or section.

SEC. 3. The Judicial Council, consisting of nine members, shall consider all ethical subjects, all questions of a personal character or controversy; including complaints and protests, which may be referred to it. The Council shall organize by choosing a President and Secretary, and shall keep a permanent record of its proceedings. It shall report to the Society at the earliest practical moment, and its decisions shall be final and binding upon all parties.

ARTICLE X.

ADMISSION FEES AND ANNUAL TAX.

SECTION 1. The fee for admission to membership of this Society shall be *five* dollars, and *five* dollars for each year he shall be a member of it. Any member failing to pay his annual dues within six months after being notified by the Treasurer, shall be suspended, but after payment of the same, *ipso facto,* shall be restored to membership.

ARTICLE XI.

AMENDMENTS TO THE CONSTITUTION.

SECTION 1. No amendment or alteration shall be made in any of the Articles of this Constitution, except at the annual meeting next subsequent to that at which such alteration or amendment may have been proposed, and then only by the concurrence of two-thirds of the members in attendance.

BY-LAWS.

LAW I.

The State Medical Society of Arkansas, which convenes annually, shall be governed by the following rules and regulations:

LAW II.

ORDER OF BUSINESS.

1. The President, or next immediate officer, shall call the Society to order.
2. Report of the Committee on Credentials of members, after the latter have registered their names and paid their fees to the Treasurer.
3. The calling of the roll.
4. The reading of the minutes.
5. Unfinished business.
6. Reports of committees.
7. Written communications.
8. New business.
9. Miscellaneous business.
10. The election of officers for the ensuing year.
11. Adjournment.

LAW III.

In case there is no quorum for the transaction of business, the delegates present may adjourn from day to day, or until the next annual meeting, unless especially called together in the meantime by order of the President, upon the written request of ten members of the Society.

LAW IV.

RULES OF ORDER.

SECTION 1. No question shall be subject to debate without a motion duly made and seconded, and stated by the chair. All resolutions shall be reduced to writing, if required by a member; the name of the introducer of each resolution to be entered on the minutes.

SEC. 2. Any member may call for the division of the question, if it contains two distinct propositions.

SEC. 3. A motion, with the consent of the second, may be withdrawn previous to its amendment, commitment or being put upon its final passage by the presiding officer.

SEC. 4. When a member desires to speak, he shall arise and address himself to the presiding officer, and confine his remarks strictly to the question under consideration.

SEC. 5. No member shall be interrupted while speaking, except by a call to order or for the purpose of explanation.

SEC. 6. All questions of order shall be decided by the presiding officer, subject to an appeal to the Society, in which case the member appealing, and then the presiding officer, shall give reasons, but no further debate shall be allowed.

SEC. 7. No member shall speak twice upon the same question without permission of the President.

SEC. 8. When a question is under consideration, no motion shall be received, except to adjourn, to lay the subject on the table, to postpone, to refer to a committee or to amend; which several motions shall have precedence in the order in which they are named.

SEC. 9. A motion for adjournment shall always be in order, except when the Society is voting upon another question, or when a member is speaking.

SEC. 10. A motion to amend an amendment is in order, but not one to amend an amendment to an amendment. The question on the amendment shall be decided before that on the main question.

SEC. 11. No motion shall be received to postpone the motion under discussion, for the purpose of introducing a substitute.

SEC. 12. Motion for postponement, to lay upon the table and for adjournment, shall always be determined without debate.

SEC. 13. A motion that has been negatived cannot be again brought forward at the same meeting, except upon a motion to reconsider.

SEC. 14. No question shall be reconsidered except upon the motion of two members who voted with the majority when the question was decided, nor unless submitted at the meeting at which the same was discussed.

SEC. 15. When a blank is to be filled, the question shall be first taken on the largest sum, the greatest number and longest time.

SEC. 16. Two members may demand the yeas and nays on any question which is not required to be decided by ballot, and have them entered upon the minutes. The presiding officer shall, in such cases, always vote last.

SEC. 17. No order shall be taken upon the report of any committee except to refer it back to the committee, to lay it upon the table or to obtain the sense of the Society in relation to the resolution appended thereto.

SEC. 18. The presiding officer shall not discuss any subject while in the chair, but may assign his reasons for deciding a question of order. He shall have no vote except on a ballot or upon a call for the yeas and nays.

LAW V.

All questions of business before this Society shall be determined by a majority of the members present, and no member shall be excused from voting unless by the consent of the majority.

LAW VI.

Members of this Society, on removing to another State, shall be entitled to a certificate or final card, signed by the President and Secretary.

RESOLUTIONS.

Resolved, That the morning hours be devoted to business; the evening to the discussion of scientific communications.

Resolved, That competent gentlemen be appointed by the President, at each meeting, to deliver addresses in Medicine, Surgery and Obstetrics.

[Adopted at Second Annual Meeting].

Resolved, That the President of this Society appoint nine members of the same, who shall act in the capacity of a State Board of Health, as far as practicable, and under the sanction and co-operation of the State government.

[This resolution was amended so as to substitute the word ten for nine.

Resolved, That those members of the Society who are now in arrears for annual dues, be notified of the same by the Secretary, and that the Secretary be further instructed to inform each member so in arrears, that all those who will forward the sum of five dollars to the Treasurer, at once, will have their names continued upon the rolls of the Society, and all arrearages for dues cancelled; otherwise their names will be dropped.

[Adopted at Fourth Annual Meeting].

Resolved, That the request of the Faculty of the Medical Department of Arkansas Industrial University be granted, and in pursuance thereof this Society shall annually appoint a Board of Visitors, consisting of five members, who shall attend their annual commencement, and witness the examination of candidates for graduation, and report to this Society as to their proficiency.

DECISIONS OF THE JUDICIAL COUNCIL UPON THE QUESTION OF MEMBERSHIP.

First Question. Are delegates from county and municipal medical societies members of the State Medical Society by virtue of their credentials alone?

Answer. The Constitution recognizes but one class of membership, and such membership only can be acquired by a ballot as provided for by Section 2, Article IV.

Second Question. Can delegates from district medical societies be received as such by the State Medical Society?

Answer. Delegates from district medical societies cannot be recognized by the State Medical Society by reason of the fact that its organic law recognizes only county and municipal medical organizations.

Third Question. Can a member of a county medical society, not a delegate from his county society, become a member of the State Medical Society?

Answer. Yes, if his qualifications do not conflict with Article IV of the Constitution.

Fourth Question. Can a practitioner living in a county where no medical society exists become a member or the State Medical Society?

Answer. Yes, if his qualifications are in accord with Article IV of the "Organic Law.'

E. R. DUVAL, M. D.,
Secretary Judicial Council.

[Adopted at Fifth Annual Meeting].

QUESTIONS SUBMITTED BY DR. HURLEY.

First. May a county medical society, having a recognized membership in the State Medical Society of this State, receive as a member a graduate of an eclectic school, who is now practicing in accordance with the principles, and subject to the laws of the regular school, without receiving the censure of the State Society?

The Judicial Council decides—That each county, municipal and district medical society, in affiliation with this Society, is the judge of the qualifications of its own members.

Second. Can a medical society be legally compelled to admit applicants for membership under circumstances such as recited in the first question; and if so, is there any precedent of the fact?

The Judicial Council decides, unanimously—No.

QUESTION SUBMITTED BY DR. DUVAL.

Can a delegate, not a permanent member, vote upon an application for permanent membership in this Society?

The Judicial Council decides—No.

QUESTIONS SUBMITTED BY DR. DIBRELL.

The State Legislature having passed an act to regulate the practice of medicine and surgery, authorizing certificates of qualification to be granted by county and State boards of medical examiners, the following questions are asked of the Judicial Council:

First. Would consultations with such licensed practitioners be in violation of the code of medical ethics?

The Judicial Council decides—That to consult with a non-graduate, even though holding a certificate of qualification from county or State boards, is in violation of the letter and spirit of the code of ethics; still, there may be occasions when such consultation might be allowable, and so explained, should work no penalty.

Second. Are they eligible to membership in this Society?

The Judicial Council decides—Registration under the statute does not carry any additional qualifications for membership in this Society other than before existed.

W. B. WELCH,
President Judicial Council.

R. B. CHRISTIAN, *Secretary.*

[Adopted at Sixth Annual Session].

Question. Does the expulsion of a permanent member of this Society from his county medical society, *ipso facto,* expel him here, that is, from membership with the State Medical Society?

The Council decides—The Constitution demands as a pre-requisite to membership in the State Medical Society affiliation in a county medical society, if one exists in the county wherein the applicant or a member resides; if, therefore, his membership in the county society is severed by his own voluntary act, or by virtue of a trial on charges of unethical conduct, then, *ipso facto,* his relationship with the State Medical Society ceases.

On the petition of Dr. B. M. Hughes, of Eureka Springs, Ark., (see page 29), who petitions this Society for restoration to membership, the Judicial Council decides that—

Under its Organic law this Society has no power or prerogative to grant this request. We recommend, therefore, that the petition be presented to the Washington County Medical Society in the hope that it will take such action thereon as wisdom, prudence and justice may dictate.

In regard to the query: Can a person be a member of two Municipal or County Societies entitled to representation in this Society? the Judicial Council decides—No. Dual membership is condemned alike in theory and practice.

E. R. DuVal, M. D.,
President Judicial Council.

Attest:
P. O. Hooper, M. D., *Secretary.*

[Adopted at Eighth Annual Session.]

Have professors in medical schools any more privileges in advertising themselves and their skill, by permitting newspaper reporters to publish their cases, than non-professors of this body?

The Judicial Council decides—No. Professors in medical schools, nor private practitioners of medicine or surgery have any such right. See code of ethics.

(Signed)
W. B. Welch,
Chairman

(Signed)
P. O. Hooper, M. D., *Secretary.*

[Rendered at Ninth Annual Session].

NOTICE.

NEXT MEETING.—The Fourteenth Annual Sessi[on] the STATE MEDICAL SOCIETY OF ARKANSAS will be h[eld] Pine Bluff, Tuesday, Wednesday and Thursday **May 2[8]** and 30, 1889, commencing Tuesday at 10 A. M.

TRANSACTIONS

OF THE

State Medical Society

OF

ARKANSAS.

HELD AT

PINE BLUFF, 1889.

Notice to Members of the Society.

1. *The next annual meeting of the Society will be held in Little Rock on Wednesday, Thursday and Friday, May 14, 15 and 16, 1890.*

2. Attention is called to the following amendments to the Constitution adopted at the last meeting: (1) "Insert in Art. 3, the following paragraph: 'In counties where there are one or more permanent members but not a sufficient number to constitute a County Society, one such member may have a vote in the proceedings of this Society and a place on the Nominating Committee.'" (2) "Add to Art. 10, Sec. 2, to read as follows: 'Any member who fails to pay his annual dues for two years, shall be notified by the Secretary to appear before the Judicial Council at the next meeting of the Society, and, failing to appear or make adequate defense, shall be dealt with by the Society in accordance with the decision of the Judicial Council.'"

3. "*Resolved*, That all members intending to read papers at our annual meetings shall notify the Secretary of their purpose at least thirty days before the beginning of the session.

"*Resolved*, That any member who shall notify the Secretary as above and then fail to comply with the promise, such failure shall be considered a discourtesy to this Society."

L. P. GIBSON, M. D.,
Secretary.

111 E. Fifth St., Little Rock, Ark.

TRANSACTIONS

OF THE

STATE MEDICAL SOCIETY

OF ARKANSAS.

PINE BLUFF, 1889.

LITTLE ROCK:
MITCHELL & BETTIS, PRINTERS.
1889.

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OFFICERS AND COMMITTEES FOR 1889-90.

OFFICERS.

President ..... Z. ORTO, M. D., Pine Bluff.
First Vice-President..... T. E. MURRELL, M. D., Little Rock.
Second Vice-President .. .... J. T. CLEGG, M. D., Siloam Springs.
Third Vice-President ..... R. M. WILSON, M. D., Columbus.
Fourth Vice-President..... W. P. OWEN, M. D., Hazen.
Secretary .... L. P. GIBSON, M. D., Little Rock.
Assistant Secretary..... E. MEEK, M. D., Argenta.
Treasurer .... A. L. BREYSACHER, M. D., Little Rock.
Librarian ..... R. B. CHRISTIAN, M. D., Little Rock.

STANDING COMMITTEES.

ARRANGEMENTS.

E. R. DIBRELL, Chairman,

R. W. LINDSEY, D. A. GRAY,
E. MEEK, C. WATKINS,
E. BENTLEY, C. E. NASH,

T. E. MURRELL.

CREDENTIALS.

T. E. MURRELL, Chairman.

L. P. GIBSON, A. L. BREYSACHER.

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J. S. CORN,	D. C. EWING,	J. S. SHIBLEY,
B. HATCHETT,	A. A. HORNER,	T. W. HURLEY.

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A. B. LOVING, J. S. WALLACE.

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J. H. SOUTHALL, Chairman.

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W. H. HILL,
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S. M. CARRIGAN,
J. W. COFFMAN,
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R. G. JENNINGS, Chairman.

W. J. MATTHEWS,
T. E. MURRELL,
J. G. EBERLE,
W. W. HIPOLITE.

PRACTICE OF MEDICINE.

C. WATKINS, Chairman.

J. P. STANLEY,
P. C. WEST,
E. R. DIBRELL,
W. P. OWEN,
W. B. LAWRENCE,
W. J. WATKINS,
Z. J. LANTORN,
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W. C. SPEARMAN,
A. C. JORDAN,
W. S. COX,
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J. B. CUMMINGS,
C. E. HURLEY.

GYNECOLOGY.

G. W. HUDSON, Chairman.

L. R. STARK,
D. A. LINTHICUM,
D. CHRISTIAN,
J. H. VINEYARD,
C. P. TOBIN,
L. L. SAUNDERS,
W. C. MONTGOMERY,
A. B. MOORE.

PUBLICATION.

L. P. GIBSON, *ex-officio* Chairman.

T. E. MURRELL C. WATKINS.

BOARD OF VISITORS TO MEDICAL DEPARTMENT ARKANSAS INDUSTRIAL UNIVERSITY.

D. C. CARROLL, Chairman.

W. W. HIPOLITE, I. FOLSOM,

J. M. KELLER, R. C. THOMPSON.

NECROLOGY.

W. W. HIPOLITE, Chairman.

J. W. HAYS, W. N. YATES.

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A. J. VANCE, Chairman, Boone county.

A. J. BREWER, Baxter county;
C. E. HURLEY, Benton county;
J. D. JORDAN, Carroll county;
J. R. DALE, Clark county;
S. R. CATES, Cleveland county;
J. T. HAWKINS, Columbia county;
W. A. C. SAYLES, Conway county;
J. H. KITCHENS, Craighead county;
O. M. BOURLAND, Crawford county;
Z. J. LANTORN, Dallas county;
W. S. WOOLFORD, Desha county;
G. S. BROWN, Franklin county;
J. F. BLACKBURN, Faulkner county;
J. H. LESLIE, Garland county;
T. J. BOOKER, Hempstead county;
S. REAMY, Hot Spring county;
W. B. BARNER, Howard county;
J. W. CASE, Independence county;
T. J. WOODS, Izard county;
S. M. TAYLOR, Jefferson county;
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J. C. MINOR, Lawrence county;
P. C. WEST, Lee county;
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L. A. SAGER, Little River county;
J. N. SIPE, Logan county;
R. N. ROSS, Lonoke county;
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R. C. PREWITT, Mississippi county;
T. H. BATES, Monroe county;
E. L. DAWSON, Ouachita county;
T. C. LINTHICUM, Phillips county;
N. T. THOMASON, Pike county;
W. R. BAKER, Polk county;
C. L. KIRKSCEY, Pope county;
W. W. HIPOLITE, Prairie county;
J. H. LENOW, Pulaski county;
J. W. ADAMS, Saline county;
A. A. SANFORD, Scott county;
J. M. KELLEAM, Sebastian county;
J. B. CUMMINGS, St. Francis county;
W. H. GOODWIN, Union county;
J. W. WEBSTER, Washington county;

A. C. JORDAN, White county.

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION, 1889.

P. O. HOOPER, D. A. LINTHICUM.

SPECIAL COMMITTEE TO CONFER WITH THE ARKANSAS ASSOCIATION OF PHARMACISTS.

R. G. JENNINGS, Chairman. C. WATKINS. J. H. SOUTHALL.

List of Officers from the Organization of the Society.

PRESIDENTS.

W. B. WELCH, M. D., 1875-6.
A. A. HORNER, M. D., 1878-9.
W. M. LAWRENCE, M. D., 1880-1.
J. H. SOUTHALL, M. D., 1882-3.
T. W. HURLEY, M. D., 1884-5.
J. A. DIBRELL, SR., M. D., 1886-7.
E. BENTLEY, M. D., 1888-9.
*A. N. CARRIGAN, M. D., 1877-8.
*E. T. DALE, M. D., 1879-80.
R. G. JENNINGS, M. D., 1881-2.
J. M. KELLER, M. D., 1883-4.
*W. H. HAWKINS, M. D., 1885-6.
W. P. HART, M. D., 1887-8.

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J. F. BLACKBURN, M. D., 1883-4.
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J. G. EBERLE, M. D., 1887-8.
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B. HATCHETT, 1888-9.
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*W. H. HAWKINS, M. D., 1878-9.
W. H. HILL, 1888-9.
W. W. HIPOLITE, M. D., 1885-6.
G. W. HUDSON, M. D., 1883-4.
W. B. LAWRENCE, M. D., 1885-6.
J. J. MCALMONT, M. D., 1884-5.
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A. J. VANCE, M. D., 1888-9.
R. S. WALLIS, M. D., 1884-5.
P. C. WEST, M. D., 1886-7.
F. N. BURKE, M. D., 1886-7.
R. B. CHRISTIAN, M. D., 1880-1.
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*E. T. DALE, M. D., 1875-6.
J. A. DIBRELL, SR., M. D., 1882-3.
ISAAC FOLSOM, M. D., 1878-9.
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W. P. HART, M. D., 1884-5.
W. H. HEARD, M. D., 1881-2.
A. A. HORNER, M. D., 1877-8.
T. W. HURLEY, M. D., 1878-9.
W. M. LAWRENCE, M. D , 1879-80.
*DRAKE MCDOWELL, M. D., 1877-8.
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T. E. MURRELL, M. D., 1885-6.
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D. P. RUFF, M. D., 1887-8.
J. S. SHIBLEY, M. D., 1885-6.
D. H. STAYTON, M. D., 1880-1.
H. H. TURNER, M. D., 1881-2-3-4.
*J. E. BENNETT, M. D., 1880-1.
R. BRUNSON, M. D., 1875-6.
C. WATKINS, M. D., 1886-7.

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L. P. GIBSON, M. D., 1881 to 1890.
R. G. JENNINGS, M. D., 1875 to 1881.

ASSISTANT SECRETARIES.

F. N. BURKE, M. D., 1885-6.
L. P. GIBSON, M. D., 1877 to 1881.
B. HATCHETT, M. D., 1887-8.
J. G. EBERLE, M. D., 1875-6-'84-5.
EDW'D MEEK, M. D., 1881 to 84-6-7.
Z. ORTO, M. D., 1887-9,

TREASURER.

A. L. BREYSACHER, M. D., 1875 to 1890.

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T. E. MURRELL, M. D., 1877-8.
L. R. STARK, M. D., 1885 to 1887.
JOHN WATERS, M. D., 1880 to 1883.
J. H. LENOW, M. D., 1878 to 1880.
R. W. LINDSEY, M. D., 1889-90.

*Deceased.

FOURTEENTH ANNUAL MEETING

OF THE

STATE MEDICAL SOCIETY

OF ARKANSAS.

Held at Pine Bluff, May 28, 29, 30, 1889.

FIRST DAY—MORNING SESSION.

The Society met in the Knights of Pythias Hall at 11 o'clock and was called to order by Dr. Z. Orto, Chairman of the Committee of Arrangements, who introduced the President, Edwin Bentley, M. D.

Prayer by Rev. J. A. Dickson,

Dr. Orto, Chairman of the Committee of Arrangements, made his report, submitting a complete programme for the entire session.

The Committee on Credentials reported the registration of the following delegates, permanent members and applicants for membership, and recommended the admission of the applicants:

DELEGATES.

J. T. Clegg, Benton County Medical Society.

A. J. Vance, Boone County Medical Society.

C. Cullen, Conway County Medical Society.

S. King, R. M. Wilson, Hempstead County Medical Society.

H. G. Logan, Independence County Medical Society.

A. R. Banks, D. C. Carroll, W. S. Cox, Z. Orto, R. C. Thompson, Jefferson County Medical Society.

J. W. Coffman, Lawrence County Medical Society.

P. C. West, Lee County Medical Society.

R. B. Christian, J. A. Dibrell, Jr., R. G. Jennings, T. E. Murrell, J. H. Southall, Little Rock Medical Society.

B. C. Goodwin, Phillips County Medical Society.

W. H. Hill, Pope County Medical Society.

W. W. Hipolite, W. P. Owen, Prairie County Medical Society.

B. Hatchett, Sebastian County Medical Society.

PERMANENT MEMBERS.

T. W. Hurley, Benton County.

J. R. Dale, Clark County.

C. A. Stanfield, Cleveland County.

Z. J. Lantorn, Dallas County.

J. T. Jelks, Garland County.

J. S. Corn, Howard County.

A. B. Loving, D. S. Mills, J. F. Simmons, C. P. Tobin, Jefferson County.

W. C. Spearman, Miller County.

G. W. Hudson, Ouachita County.

Edwin Bentley, A. L. Breysacher, L. P. Gibson, P .O. Hooper, E. Meek, Pulaski County.

A. C. Jordan, White County.

APPLICANTS FOR MEMBERSHIP.

C. E. Hurley, Benton County.

T. H. Ackerman, Cleveland County.

S. R. Cates, T. B. Tims, Cleveland County.

C. Cullen, Conway County.

W. S. Woolford, Desha County.

W. T. Stanley, Drew County.

J. H. Leslie, Garland County.

S. King, Hempstead County.

H. G. Logan, Independence County.

H. L. Alexander, A. R. Banks, W. S. Cox, J. L. Goree, E. McGaughey, J. W. Scales, G. W. Seymore, J. P. Stanley, S. M. Taylor, R. C. Thompson, A. W. Troupe, D. C. Walt, J. W. Withers, Jefferson County.

D. W. Bright, Lafayette County.

P. H. Pendleton, Lincoln County.

W. P. Owen, Prairie County.

The report was adopted and the applicants were elected by ballot.

The roll-call and reading of the minutes was dispensed with.

On motion, consideration of amendments to the Constitution were postponed until to-morrow evening.

Recess.

AFTERNOON SESSION.

The President called the Society to order at 2:30 o'clock.

Dr. A. J. Vance, Chairman of the committee, read the report on "Practice of Medicine," and it was referred to the Publication Committee.

The courtesies of the floor were extended to Dr. W. D. Haggard, of Nashville, Tenn., and Dr. Wolfred Nelson, of Canada.

On motion of Dr. Breysacher, Dr. Nelson was invited to read a paper on "Yellow Fever."

The paper entitled "Little Things in Medicine," by Dr. W. A. Reese, of Eureka Springs, was read by the Secretary, the author being absent, and, on motion, rejected.

Dr. A. C. Jordan read his paper on "Hypertrophy of the Prostate Gland," which was discussed and referred to the Publication Committee.

Dr. Nelson read his paper on "Yellow Fever." On motion of Dr. Orto, the paper was received and thanks returned to the author.

Recess.

EVENING SESSION.

The Society met at the opera-house at 8 o'clock, a large audience having already assembled.

After music, Mayor Bocage spoke a few words extending the hospitality of the city authorities.

Professor Junius Jordan delivered the following

ADDRESS OF WELCOME:

MR. PRESIDENT, LADIES AND GENTLEMEN:

One of the happiest as well as the most useful improvements which the social system has received since the earliest congregation of human life, is that of the inspiring sentiment of hospitality.

The recognition of this grace is inculcated in the Scriptures as one of the cardinal virtues. In the Old, as well as in the New Testament, it appears as one of the cognate elements of positive authority, as well as of pure morality.

The old patriarch was never so happy as when he had a guest with whom to divide a fatling of his flock; while the spirit of "Tarry thou with me," seems to have been so germane to the Mosaic dispensation that it was incorporated in a

graceful recognition in one of the ten commandments. "Thy stranger that is within thy gates," seems to have been so prevalent a custom, that this happy notice and admonition was given him by Deity from amid the awful solemnities of Sinai. And further on, the effectiveness of this virtue, as an auxiliary to the growth and spread of Christianity, was duly recognized and enjoyed. Indeed, it seems to have been one of the factors in the projection of the new dispensation along the line of ages; not so much because of its necessity, as it was for its subjective agency in the cultivation of the sentiments of beneficence and of generosity. Its quality, like that of *mercy*, is not strained, "it is twice blessed; it blesseth him that gives and him that takes."

Now, *custom* has established certain formulæ which are well calculated to indoctrinate this sentiment, but beneath this ostentatious announcement, the heart nurtures and cultivates the virtue. While custom has the attractiveness of that Alpine flower that grows odorless amid the undissolving snows, hospitality is the lily with its golden heart. Receptions are the trellises on which is elaborated a display of the foliage; hospitality is the expressed juice of the grape mellowing the soul as high-spirited wine. To the pastor and the physician, society yields the superior claims and privileges of hospitality, and with one accord, old and young, rich and poor, unite to secure for them the choicest places at the table and at the hearthstone.

And it is with feelings and sentiments of this nature that it is my honorable privilege this night to extend the hospitalities of the City of Pine Bluff to the Medical Association of the State of Arkansas.

Doubtless there is no friend more welcome in a family than its chosen physician. We are likely to forget him when the sun is shining in the household and the rose of health is blooming on the cheek, but when sickness or calamity comes we are about ready to resign every earthly comfort and to make him our guest for the season, provided, of course, he does not take too many privileges.

Probably he is the only man in the world who is required to be always fast on the road, and yet, when sent for, he monopolizes the boon of "Take your time, Miss Lucy." We send for him in affliction with the ever-to-be-spoken injunction, "*Come quick!*" and though he comes like the thundering Spokane, surpassing all known terrestrial coursers, the good woman of the house stretches her anxious heart and strains her aching eyes from door to window and from window to door, exclaiming in agony: "How long, O, Lord, how long!" But, recurring to the idea of hospitality, I am grieved to think of the departed days of the dear old "pill-bags," when the doctor brought his drug store along with him, and a reasonable amount of social inclinations. Then it was he tarried long enough to determine whether his patient was bald, or cross-eyed, or whether he was afflicted with hypochondria, or the *acarus scabici;* but now he seems alarmed at what possibly may be the affliction, and lest the spirit of disease which he is to exorcise through the medium of therapeutics may seize upon *him* He now walks into the room, looks gloomily suggestive of a consciousness of innocence in the presence of immediate execution and says, "Well!" The patient responds, "No, sick!" The doctor's eyes wander in a kind of a "Hark from the tombs, a doleful sound," kind of a tone over the prostrate countenance of the sufferer, and he slowly and methodically takes forth his tablet and pencil and writes the old pre-

historic formula, which the apothecary in the malarial region has learned, after a quarter of a century, to read by habit and fill by instinct, and he drearily, drearily walks away, indicating to the terrified patient the muffled music in the tune:

"That awful day will surely come,
The appointed hour makes haste,
When you before the judge shall stand,
And pass the solemn test."

I doubt not the triumphs and the progress of medicine in the field of its mission, but, it may be appropriate to suggest that the old-time fashion of a reasonable hour spent in generous discourse, or cheery chimney-corner talk would, perhaps, reduce the bill at the drug store and secure a more easy return of the patient to his normal condition.

It is not necessary to urge upon so eminent a school of practitioners as I recognize before me, the energizing effect of a substantial visit, whether you like it or not. We all know how soon the tooth ceases to ache as the gleaming "grippers" arise before the eyes; and we all further know how soon the worries and tortures of disease grow less as the doctor appears, and by his cheerful presence and social intercourse tells us it is only a subdued case of acute gastritis, or an aggravated attack of typho-malarial fever from which it may be possible to recover, provided the patient is treated with the proper nursing. If he can indicate to the bystanders, in the hearing of the sick one, that Mr. Scroggins and pretty Miss Alvina Simpkins have lately been placed beneath the pansies, it will impart a more awful seriousness to the case in hand, and at the same time vitalize the determination of the victim to get well.

I believe your books record many cases of the cures effected by that genuine tonic, cheerfulness. It is more than likely that there is much effectiveness of cure in the barbarian's tom-tom and persistent incantations. Attempt, as your science justly does, to penetrate the protean armor of the "song and dance" medicine man, there are many of the citizens of this world who have the reputation for much wisdom, who yield to the potent spell of the infatuation and assert beneficent results from this delicious hypocrisy.

As for myself, I verily believe that if my doctor could play the fiddle and repeat for me the ever-laughable grotesque musical comedy of Arkansas Traveler, or Mississippi Sawyer, that it would enable me to make a luxury of jalap, digitalis and podyphillin, and that, too, without any apprehensions of explosive regurgitations.

Professional seriousness, however, may result from the fact that an air of modified misery on your part will more effectually indicate the profundity of the disease and the ultimate dangers of your professional wisdom. Sometimes it may be that you are touched with the thoughts of that great future, that undeveloped bourne from which few of your patients have ever been known to return. For instance, it was my pleasant good fortune to be standing near two of your learned members, not many decades since, and as one of them pulled out the inevitable Rx outfit to write a prescription for a patient, whose presence was suggested by the vague and shadowy semblance of a human form under the oscilliating agency of an Arkansas chill, he said to his brother "of the cloth:" "Asclepius, if I could make a living any other way, I would cast this pencil and tablet into the

gutter and retire gracefully from the profession." "Why, so, brother?" "Well, when Gabriel inaugurates that final graveyard scene, I am afraid there will be too many fellows popping up here and there and ready to pass adverse remarks on the causes of their early decease." It may be remarked, however, that this spirit of cheerfulness may be carried beyond the bounds of legitimacy. For instance, in the case where the Chicago widow said to the minister, on the way to the grave of her deceased husband: "My dear sir, I'm sorry you were so late about this matter, as I have just accepted the family physician," as the procession left the house.

But I have nothing but praises for the doctor, for when I contemplate in the lonely hours of my deep despondency, the fact, verified as it is by family traditions, that the first compliment ever paid me was by a doctor—a fact that hardly gives me any advantage over any one in this audience, I am constrained on all occasions to say in return for "Fine Boy!" "Fine Doctors!"

Gentlemen, it must be great and unavoidable satisfaction for you to know the important estimate in which the world holds your honorable profession. I have frequently compared you in my mind to the presiding officer of a deliberative body, whose duty it is to pass upon motions; then again to the chairman of a returning board; then to that of secretary of the interior department, or chairman of internal improvements. Lastly, I have come to the conclusion that you may represent successfully either one of these ideas, but more than all, the noble figure among the indestructable digits—*nine* (9), for it is that figure which expresses more satisfactorily to you and to the always interested world at large the supreme and scientific importance of your great profession. Anything under *nine* indicates an inadequacy that places your special charge and your professional attainments far below the standard where boasting should begin, or to which your scientific dignity should stoop.

It occurs to me also that you represent the importance of the letter "H" in the alphabet. As it is said of that character, so may it be said of you:

"'Twas allotted to man, with his earliest breath,
Attends at his birth and awaits him in death;
It presides o'er his happiness, honor and health,
Is the prop of his house and end of his wealth;
Without you, the soldier, the seaman may roam,
But woe to the wretch, who expels you from home."

Passing from these felicities, we come to a consideration of the solid effect of the profession on the growth and progress of civilization. In considering the practice of medicine, there may be two elements, the objective and the subjective. While you assert the primary importance in relieving suffering and combatting disease, your profession has for a century been the foe of superstition, and by the unerring processes of the test-tube, the purifying action of the crucible and the prurient searchings of incisor and scalpel, the personal phantasmagoria of disease and of persecuting hobgoblins and witches have either been annihilated or relegated to the shambles of ignorance and to the hoods of the voodoo. Lurking demons have been accurately located in disordered livers or abused stomachs, and expunged by the scientific economies of the *materia medica*. The quack and the conjurer have been assigned their places among the exploded falsities of

the past, while the triumphs of therapeutics have proven the accurate integrity of a legitimate and systematized practice.

I hesitate not to assert that—whether obviously intended or not, your profession has aided the cause of christianity and of morality, of society and of civil law, and that whatever may be your individual or aggregate views on orthodoxy, still, that all results that have been favorable to the destruction of mysticism, or sorcery, and thereby favorable to the establishment of the social fabric upon a basis of truth and integrity, will be accounted unto you as righteousness.

Beyond this great moral accomplishment there is another important virtue, the practice of which will aid in the processes of your salvation. Your skill and services, like the lawyer's *lucubrationes viginti annorum*, are more frequently given to the unfortunate than the world accurately knows, or perhaps properly credits.. The criminal at the bar of justice has counsel assigned him and this circumstance becomes one of the public records of the State's liberality and of the lawyer's ability. But here and there along the uneven pathway of life, there is many a hearthstone that suffers from disease, whose people are too poor to provide and too proud in their lowly estate to parade their destitution before the world. It is to those lonely and desolate homes that the good samaritan of your profession, regardless of his personal safety, frequently goes unostentatiously, and, as it were, in modest and quiet obedience to the poetical injunction:

"Go to the pillow of disease,
Where night brings no repose;
And on the cheek where sickness prays,
Bid health to plant a rose.

"Go where the friendless stranger lies,
To perish in his doom,
Snatch from the grave his closing eyes,
And bring his blessings home."

In concluding this welcome to you, gentlemen, it would be unwise did I not pay some tribute to that moral heroism so often displayed by members of your profession, which impels them, as it were, spontaneously, to stand by their friends and their community, nor "to be afraid for the terror by night, nor for the arrow that flieth by day."

I shall ever reverence in my feelings and advance in my teachings the highest degree of respect and admiration for those gallant boys in grey who breathed the "sulphury siroc" of Shiloh and Chickamauga, or dashed up the fire-bathed heights of Gettysburg to gain a laurel to place on the brow of some loved one at home. At the same time I must accord equal praise to the physician who bids the same soldier-like adieu to the hearthstone of his heart and goes to meet the "pestilence that walketh in darkness and the destruction that wasteth at noonday." The soldier as he bears himself away from his saddened home, with his heart almost rent asunder, and goes to join the battle's shock,

"Where lightnings flash and thunders groan,
And havoc strikes whole legions low,
And death's red billows murmuring flow,"

Is nerved by the electric touch of a companion's elbow; is cheered by the sounds of charge and countercharge, or by the shouts of victory; but the doctor who

leaves his home equally as desolate and heart-rent, and goes to meet the invisible pestilential foe to rescue a dying community, hears no sounds save those of death; hears no voice save that of despair; yet he "walks with Minerva where Mars might quake to tread," and deserves to have his name written in ever-enduring capitals "high on the rounded crown of Fame's eternal arch."

We pause before the tribunal of history to hear testimony to that spirit of heroism that sent Curtius into the yawning chasm before the Roman Forum, and caused Mucius Scævola to burn to his arm at Porsenna's camp-fire, and of the Spartans who died in the mountain pass that their country might be saved.

These moved to meet the terrors of destruction, inspired by the potent spell of infatuation evoked by the legends of poets and shaped in the immortal marble of the sculptors.

But we bow in greater reverence to that moral heroism of Cotton Mather and Fabdiel Boylston, who moved steadily and fearlessly against the frowns of superstition and the fierce denunciations of the populace, to rescue the people from the loathsomeness of a pestilence that had for ages defied the skill of the physician and blackened the hopes of the future.

The nineteenth century is bright with the names of men who have torn themselves from their families and who have advanced into the sickening folds of the pestilential air to minister to the wants and the agonies of the living and the dying. Even in this audience and among your honored membership here tonight, I recognize the heroic souls of several who, when, years ago, a sister city of a neighboring State was enveloped in the stifling air and putrefying clouds of the yellow curse, flung aside the comforts of safe and happy homes and the emoluments of office, and with devoted hearts and determined wills, walked into the walls of death, and day and night stood nobly and grandly by the side of the stricken hearts and hearth-stones of the despairing people. And it is to such nobility and such sublime virtues that we, this night, pay tribute and fling wide open the doors of our city to assure you that your worth is your welcome here.

"Shake and take," you have often said to us, in solemn tones, unmingled with a twinkle or a smile. "Shake and take," have you said when the possibilities of the one were mocked by the impossibilities of the other. "Shake and take," have you said to us when the vibratory processes of an acreage of symstematized malaria left it beyond the powers of mortal man to do anything else but shake.

But, to-night, the city of Pine Bluff holds out its hands and says, "Shake," and it opens the doors to its hospitalities and says "take."

Shake you may, and take you must, a far more palatable and inspiring draught than Asclepius could suggest or his apothecary compound. Shake off the parsimonious measurement of the "three scruples," apothecary, and take *ad libitum* the liberal, well-filled and healthy ounce of old avoirdupoise. Finally, shake off the impersonalities of the north pole and take on the soul-warming irridescence of the tropics and you will be moved to deeper thought and quickened to grander lives.

In behalf of the Society, Dr. T. W. Hurley responded in the subjoined:

RESPONSE.

MR. PRESIDENT AND GENTLEMEN:

In answer to the eloquent remarks from the gentleman who has so warmly welcomed us—The State Medical Society of Arkansas—to this beautiful city, and tendered her munificent hospitality, I but voice the unanimous sentiment of the Society when I say, thank you, one and all.

I am, this evening, very much in the situation of a young sprig of the law in Georgia, a few years ago. In a little town in that State there lived a noted legal wit, whose sayings were very much quoted. He had a son by the name of John, who was a candidate before the legislature for the office of Solicitor of the Court, and he applied to his father for a letter of recommendation. There was a fierce contest between John and his opponent, and the tide seemed to be turning against John, when, in the midst of a speech before the solons, he drew from his pocket his father's letter, and read as follows:

Dear Sir: My son John informs me that he is a candidate for the solicitorship in this court. His qualifications for the office are: first, he has a most insatiable desire for office; and, secondly, he has the least capacity to fill one of any young man of my acquaintance.

Gentlemen, I have a desire to say something grand and eloquent on this occasion, but unfortunately as little capacity to do so as any man in this Society.

I was really proud when, a year ago, your beautiful and thriving city was selected for the fourteenth annual meeting of the State Medical Society. It is with great pleasure I contrast your city of to-day with the town it was the first time I ever saw it. Twenty-seven years ago last March, I saw your town for the first time. How different then and now; then a small town comparatively; now, the metropolis of the eastern part of the great and growing State of Arkansas. Then war-clouds were hanging and bursting all over this beautiful south land of ours; then the youth and chivalry of this country were falling fast before the vim of an invading foe; an internecine and fratricidal war was upon the land, and no one could tell what the result would be. How different then and now, when peace, plenty and progression seems stamped upon everything around and about you. Twenty-seven years ago, as before remarked, I, with about five hundred other unorganized troops passed through your town on our way to join the lamented Albert Sidney Johnson. Then General James Yell was here; he is now gone, with many others, but I meet a few here now that were then here, and they serve to connect us with then and now, and none of whom I am prouder to grasp by the hand than my friend and your distinguished townsman, Dr. Rans Brunson.

To the gentleman who has so eloquently and cordially welcomed us, and to the good people of Pine Bluff, I want to say, that we are not here as politicians to ply the trade of the trickster and the demagogue, and by vexing the air with the fulsome praises of some unworthy partisan to elevate him to place and power. Nor yet are we here animated by the sordid desire of financial gain, to take measures to further swell the coffers of that commercial world "where merchants are princes and traffickers among the honorable of the earth." Nor yet bewildered by the temporary glamour which encircles the name of some human butcher have we assembled to join the unthinking mass in their blind adoration or to drown the moans of the wounded and dying, and the wails of the widow and

orphans in pæans to his praise. No, sir, we are here for a far nobler and higher purpose, compared to the beneficial results of which the achievements of the proudest victor king who ever strode over a red battle-field sink into utter insignificance. No, sir, not for this, but we are here to advance ourselves in that science which has ever been the fast friend of all human kind. We are here to better prepare ourselves for waging war against disease and death. To the true physican, it matters not where he gives battle to the great destroyer, of whom it is said "he taps with equal step at the palace of the rich, or the hut of the poor." Whether on the field of carnage amid the terrible music of the bursting bomb, and the piteous moans of the crushed and dying; whether around the squalid cot of the friendless pauper, or the gilded couch of the millionaire, the same true physician, with impartial thought, brings to his task the wealth of learning and experience, and applies his ministrations with all his might and energy. Always so intent on relieving the sufferings of others as to be totally regardless of his own health or safety. Thus, often with the same hand which soothes and heals the woes of his fellow-man, he plants the seeds of his own dissolution.

The science of medicine has ever been progressive, and in all ages distinguished for its great names, who have been remembered among the greatest benefactors of our race. The State Medical Society of Arkansas, composed as it is, of men, many of whom have achieved not only a local distinction, but a national reputation in the field of professional and scientific inquiry, purpose to continue this work for a few days in the commercial metropolis of eastern Arkansas. Now we are here to cultivate and be cultivated, and while we expect to be engaged most of the time in our legitimate business, yet we hope to be able to visit the many places of interest in your city, note your vast improvements and enjoy your hospitality and friendship, and when we shall have returned to our respective homes, no doubt we shall all be able to truthfully say of Pine Bluff, that the pluck, energy and enterprise of her business men is only commensurate with the accomplishments and beauty of her women.

After more music, the Chairman of the Committee on Arrangements introduced the President, who delivered the annual address.

At the conclusion of the address the audience dispersed and the Society adjourned.

SECOND DAY—MORNING SESSION.

The Society was called to order at 9:30 o'clock by Vice-president Vance.

Dr. Orto stated that Messrs. W. L. DeWoody, J. H. Scull and D. I. Mills were delegates from the Arkansas Association of Pharmacists, and moved they be granted the privileges of the floor. Carried.

On motion of Dr. Hatchett the rules were suspended and Dr. W. D. Haggard, of Nashville, Tenn., was invited to address the Society.

Dr. Haggard then spoke of the organization and objects of the Southern Surgical and Gyneclogical Association, and asking its indorsement and support from the members of the State Medical Society of Arkansas and inviting them to attend the meeting to be held in Nashville next fall.

The President's address was referred to the Publication Committee.

The Committee on Publication reported as follows·

LITTLE ROCK, May 20, 1889.

MR. PRESIDENT: The Committee on Publication respectfully report that they have published the transactions of the last meeting, including the papers that were deemed worthy of publication. The cost is shown by the Treasurer's report.

Very respectfully,

L. P. GIBSON, M. D., Ex-officio Chairman.

The report of the Board of Visitors to the Medical Department of the Arkansas Industrial University was read by Dr. Hipolite for the Chairman, Dr. Hart, who was absent:

REPORT OF THE BOARD OF VISITORS TO THE MEDICAL DEPARTMENT ARKANSAS INDUSTRIAL UNIVERSITY.

MR. PRESIDENT AND GENTLEMEN OF THE STATE MEDICAL SOCIETY:

In pursuance of the duties assigned to the Board of Visitors we were present at the College and witnessed the examinations of the recent graduating class of the Medical Department of the Arkansas Industrial University. In the discharge of our duties we were cheerfully afforded all facilities necessary for carefully observing the practical methods of instruction pursued, and the character of the work accomplished during the last collegiate year.

We are pleased to report that the College has maintained its previous high standing, and that it has continued to increase in prosperity since our last report. We are more than ever impressed with the increasing usefulness of this institution. A general survey of its condition can but afford great satisfaction to the friends of medical education throughout the State.

The examinations were thorough and covered a wide range of study, embracing all the branches of medicine usually taught. The average scholarship was very satisfactory, and abundant evidence was afforded of the thoroughness of the instruction they have received. There is evidently a conscientious desire on the part of the Faculty not to graduate any one who is not fully up to the standard of requirements for graduation, and the standard of this College is equal to that of the older medical colleges in other States. Medical students, and all others interested in medical education, are assured that every advantage offered by distant colleges are afforded by the Medical Department of the Arkansas Industrial University, without the serious objections inherent to all overcrowded schools.

By reference to the curriculum students will readily perceive that there is no necessity for entering the more expensive institutions of our large cities, nor making long voyages to foreign countries to acquire a good medical education.

The usefulness of a medical school depends upon the amount of education—primary and ultimate—which it requires, the fidelity with which it exacts its own professed requisitions, and the train of healthy exertion, active inquiry and rigid, methodical, self-regulating study to which it introduces its pupils. The longest lectures are of little use to students who lack a common education, and whose medical education does not qualify them afterwards to observe, to inquire, and to discriminate.

The growth of an institution of learning in any State is one of its greatest interests, contributing largely to its prosperity. Such institutions are in constant need of additions to the library, apparatus for illustrations, specimens for the museum, etc., and should receive the fostering care of the State. It is the opinion of your committee that, as a part of our State University, where higher education is at the expense of the State, the Medical Department should receive such fostering care, by which means the State may become better supplied with skilled physicians, and to secure to the people whatever benefits may be derived from the science and art of medicine in the prevention and cure of disease, and to utilize it to the best interests of society.

W. P. HART, M. D.,
W. W. HIPOLITE, M. D.,
W. B. LAWRENCE, M. D.,
J. M. KELLER, M. D.,
J. FOLSOM, M. D.

The report of the Committee on Medical Legislation was read by Dr. Murrell for the Chairman, Dr. Linthicum, who was absent:

REPORT OF THE COMMITTEE ON MEDICAL LEGISLATION.

MR. PRESIDENT AND GENTLEMEN OF THE STATE MEDICAL SOCIETY:

In compliance with the wishes of this Society at its last annual meeting that the Committee on Medical Legislation be continued, we hereby submit our report. This committee has been continued since the organization of this Society, now fourteen years, and with the exception of the present medical law, which was enacted eight years ago, and which, as every physician present knows, is well nigh useless in so far as the purposes for which intended are concerned, nothing has been accomplished in the way of legal enactments in any way whatever.

Every Legislature has been approached upon the subject, and bills have been drawn up and introduced, and have found their last resting place in the committee rooms. During the last session of our State Legislature your committee had a bill drawn up embodying the resolutions adopted at Fort Smith in April of last year, concerning Boards of Examiners, the purpose of which was to so amend our present law as to do away with County Examining Boards altogether, and to substitute Congressional District Boards instead. The bill passed its first reading and was referred to the Committee on Medical Legislation, composed of five members, three of whom were physicians, and not one of them, in so far as we could learn, was a graduate of medicine. The result was as might have been expected; the committee reported back recommending that the bill do *not* pass.

After a thorough study of the subject in all of its bearings, it is our final conclusion that all attempts at legalizing, regulating, or in any manner controlling the

practice of medicine by law is not only unwise, but in the long run harmful. This committee were better merged into the Committee on Medical Education, wherein lies the whole secret of and key to this question. Our ends can best be attained by thorough organization of our State and County Medical Societies, by cultivating a higher standard of professional and moral standing among ourselves, and in this way finally controlling the sentiment, commanding the respect, and thus gaining the confidence and patronage of all sensible persons. We cannot afford, out of respect to our honor and dignity, to go before political bodies, who see all persons in quest of special legislation only as interested in a financial sense in some more or less direct way, to seek their votes and receive their contempt for what we intend for the public weal only and not our own.

All attempts in this direction only popularize the hordes of charlatans and bring into undue notice and popularity the various "pathies" and "isms" which might otherwise never have been noticed. Let us make no more ado about our unselfish interest in the public welfare, but let us, as true philanthropists, as every honorable physician certainly is, quietly work among ourselves to ennoble and dignify our calling, and prove to the world, in so far as the world will accept proof of genuine merit, that we are the true friends of every public good and are governed by no selfish motives in our efforts to prevent disease, promote health and prolong life.

We recommend, therefore, that the Committee on Medical Legislation be abolished.

Respectfully submitted,

D. A. LINTHICUM, M. D., Chairman.

After a lengthy discussion the report was referred to the Publication Committee.

Dr. Gibson introduced the following amendment to the Constitution:

Amend Article IX, Section 1, so as to strike out the words, "A Committee on Medical Legislation." Lies over for one year.

Dr. Murrell, Chairman of the Committee on Medical Education, reported as follows:

MR. PRESIDENT AND GENTLEMEN OF THE ARKANSAS STATE MEDICAL SOCIETY:

As members of a learned profession we should look well to the standard of education for those destined to enter our ranks. Medicine is either a learned profession or it is a trade, and which of these it becomes depends upon the moral qualities as well as the mental attainments of him who chooses it for a vocation. There is no law which can control the use to which one puts his knowledge, as there is no human law which can enforce morality, but the measure of attainments can be rigidly fixed, and license to enter drawn at a high mark. Men who live upon cunning and deception are averse to the labor necessary to great learning in any calling in life; hence the universal lack of ability and of true merit in those who make capital of any profession. A cunning understanding of men and shrewd tactics serve such persons instead of genius, and like gaudy tinsel to the uncivilized man or unsophisticated baby-hood, their flare and flummery captivate the unsuspecting and credulous. Honest and noble manhod, however, loves the

truth and seeks it diligently. Knowledge brings desire for more knowledge, and a young man well trained in the various branches of medicine as taught in our reputable medical colleges needs no further stimulus to extend his learning than the desire already begotten in him to emulate those masters in medicine and surgery who have fired his mind with a love and zeal for profound medical lore. Hence the great success of our post-graduate colleges, which are now flooded with practitioners of medicine in quest of information on the various branches of the healing art, some of whom have already attained distinction in their chosen work. He who starts out in the practice of medicine with meagre attainments labors under the very great disadvantage of conscious incapacity to meet the varied emergiencies of accident and disease, and either sears his conscience by an habitual pretence of knowing when he is in gross ignorance, and thus finally blunts his moral sensibilities and at last becomes satisfied with his little knowledge, or else he sinks into a kind of agnostic and consoles himself with the belief that no one else knows much more. True genius will rise above all this, and though fettered for a time will finally burst its shackles and soar aloft in the empyrean skies of learning. The higher we can make our standard of learning therefore, both preliminary and final, so much the better for both the individual and the cause of medicine, and infinitely better for the alleviation of human suffering. There are grand possibilities yet in store for close and learned observers in the fields of medicine and surgery, and as no branch of science fails to connect at some point or other with the great problem of human life which seems to be the summing up and final embodiment of all physical, chemical and vital laws, the more universal ones learning the rarer his opportunities for valuable discoveries in medicine and surgery. Our profession is pretty well agreed on the importance of educating young men thoroughly for medicine, meaning by this both a thorough preliminary training in the common schools and colleges, and a sufficiently long term of study and attendance upon lectures, with a rigid examination on all the fundamental branches of medicine in order to the M. D. degree. There is another phase of medical education, however, that has not, perhaps, kept pace with that of learning, viz., the ethics of medicine. Man, by reason of his two-fold moral and social capacity, owes to his fellow-man certain obligations in whatever vocation in life he may be placed. Each calling creates its own peculiar relations between its members and between them and those without; the law has one, the ministry another, medicine a third and still different relation. Whatever laws for the guidance of professional conduct are adopted in any of these learned professions, whether written or by mere consent, is simply the expression of the sense of obligation betwen gentleman and gentleman. The code of ethics of the American Medical Association is one of the most elegant and refined tributes to genuine and exalted manhood to be found in the history of secular bodies. And how unfortunate for the fair fame of our noble profession that its golden tenets are not more universally observed! But while there are many within our own ranks who, for reputation or wealth have prostituted their high calling, there are still the seven thousand who have never bowed the knee to this Baal, whether merit has been honored and talent rewarded or not. What we particularly need just now is to reach the laity in some manner that will enable the more reasonable and discerning ones to recognize the difference between the true and honest

physician and the charlatan, and between true and false systems in medicine. It is certainly a difficult task, and one that calls for long suffering and patience on our part. The enlightened and refined physician is an educator in every community, and by well concerted and wise plans much could be done in the direction of awakening the public to these matters. Already there is clear evidence of improvement in our State in the better discretion of the people as to whom they patronize for their physical ills. The traveling charlatan is gradually losing caste with the progress of universal education and enlightenment. The more dangerous and insidious foe is he who by reason of his diploma and outward conduct to his fellow-physician maintains honorable standing in the ranks of the profession, while by cunning and shrewd manipulation he manages to draw to himself patients, and make for himself a reputation far above any merit he possesses or successes he attains. A kind of superstitious admiration is created in the minds of ignorant persons—ignorant of medicine, at least—towards such individuals, and they work it for all it is worth. There is but one way for the profession to meet such conduct—condemn it utterly and withdraw all associations with such individual. The first factor, then, in awakening the public to the truths of medicine is general education. We could only hope that education would solve the problem as to so-called systems in medicine, but we dare not presume so much. Even to the man learned in medicine there is so much that is obscure and at best speculative, that a wide field is opened for skepticism among those who cannot penetrate so far. Hence, the excuse for the numerous "pathies" with their numerous following. The time will come, doubtless, when all the accrued facts of chemistry, physiology, biology and pathology will unite all educated men in the acceptance of one general system of belief in medicine, with the necessary minor differences on side issues, as in our own school. Some of us are inclined to believe this point has been pretty nearly reached already, could prejudices and the bias of education, together with pecuniary motives be removed. Until doctors agree, how can we expect the laity to agree on any system of medicine?

Let us then be frank with all men, demonstrate to the public by all manner of behavior and conversation that we are sincere in our belief, and prove by thorough mastery of our profession, our ability to demonstrate the correctness of our belief and in all things "acquit ourselves as men worthy of the vocation whereunto we are called," ever mindful of the fact that, after all, "the servant is not greater than his Master," and that as our Master's mission was to heal the sick and suffer want, so we are to go whenever we are called, whether in the chill hours of winter's night or the heat of summer's noonday to the bedside of our sick and suffering fellow man to sooth him with a brother's touch and to minister unto him such measures of relief as the resources of our art afford.

Respectfully submitted,

T. E. MURRELL, M. D., Chairman.

The report was referred to the Publication Committee.

The Secretary read his annual report, as follows:

LITTLE ROCK, May 20, 1889.

MR. PRESIDENT:

I have to report as Secretary that I have performed the usual routine of duty connected with my office. At the last meeting a resolution was adopted instruct-

ing the Secretary to distribute the code of ethics to the different *medical societies* in the State. As such a distribution would be a manifest and unintentional injustice to the large number of members who are not connected with medical societies, I have not carried out the instructions, preferring to wait until this meeting for further advice. Very respectfully,

L. P. GIBSON, M. D., Secretary.

The Treasurer submitted the following annual report:

To balance on hand as per last report, April 23, 1888		$135.65
To cash received from members since then		565.00
Total		$700.65
April 27, 1888, By cash paid janitor, Voucher No. 1		$ 5.00
May 1, " " " " Wilson & Webb, 2		1.85
" 1, " " " " Secretary, 3		150.00
" 10, " " " " Mitchell & Bettis, 4		7.00
" 14, " " " " " " 5		92.75
" 17, " " " " Secretary (postage), 6		10.00
July 5, " " " " Mitchell & Bettis, 7		80.00
" 21, " " " " Arkansas Gazetteer, 8		5.00
Sept. 4, " " " " Mitchell & Bettis, 9		229.70
" 8, " " " " Secretary (postage), 10		17.00
Dec. 11, " " " " Mitchell & Bettis, 11		2.25
Feb. 5, 1889, " " " Wilson & Webb, 12		1.80
April 1, " " " " Secretary (postage), 13		15.00
" 2, " " " " Press Printing Co., 14		27.00
Total		$644.35
To balance on hand this May 28, 1889		56.30
		$700.65

Respectfully submitted,

A. L. BREYSACHER, M. D., Treasurer.

The report was referred to an Auditing Committee consisting of Drs. D. C. Carroll, Hurley and Thompson.

The Librarian submitted his annual report.

Dr. Jennings, Chairman of the Committee on Necrology, reported the death of Drs. J. T. Booth and W. C. Mayberry.

The following amendment to the Constitution, introduced at the last annual session, was read and adopted, viz:

Add to Art. X, Sec. 2, to read as follows:

Any member who fails to pay his annual dues for two years shall be notified by the Secretary to appear before the Judicial Council at the next meeting of the Society, and failing to appear or make adequate defense, shall be dealt with by the Society in accordance with the decision of the Judicial Council.

The following amendment, offered last year, was also read and adopted, viz:

Insert in Art. III, the following paragraph:

In counties where there are one or more permanent members of this Society, but not a sufficient number to constitute a County Society, one such permanent member may have a vote in the proceedings of this Society and a place on the Nominating Committee.

Recess.

AFTERNOON SESSION.

The Society met at 2:30 o'clock, the President in the chair.

The President called Vice-president Hatchett to the chair.

Dr. Jennings read a report of "A case of penetrating gun-shot wound of a round bone."

Dr. J. T. Jelks read his report of "A case of gun-shot wound with compound cumminuted fracture."

Dr. Orto read a paper on "Shot wounds of the lower extremeties, with a case."

Dr. J. T. Clegg read his report of "Three cases of gun-shot wound, illustrating the antiseptic or closed treatment."

The above papers were discussed at length, and finally referred to the Publication Committee.

Dr. T. W. Hurley, Chairman, read his report on "Surgery," which was deferred at the opening of the afternoon session on account of Dr. Hurley's absence.

Vice-president Vance was called to the chair.

The report on "Surgery" was discussed and referred for publication.

Dr. J. T. Jelks read his "Report of a case of enterotomy for cancer of the pylorus," which was, after discussion, referred to the Committee on Publication.

Dr. Christian read a paper on "Railway surgery," which was discussed and referred for publication.

Adjourned.

THIRD DAY—MORNING SESSION.

President Bentley called the Society to order at 9:30 o'clock.

The Committee on Credentials presented a supplemental report.

A lengthy discussion took place as to the effect of the recent amendment to the Constitution, with respect to the voting of members from counties not having societies.

Dr. Gibson moved to reconsider the vote by which the amendment was adopted. Lost.

The Secretary read the names of the following members who had been appointed by the respective delegations to constitute the Nominating Committee: Drs. Hurley, Vance, Stanfield, Cullens, Lantorn, Woolford, Stanley, Corn, Logan, R. C. Thompson, Bright, Coffman, West, Pendleton, Spearman, Hudson, Goodwin, Hill, King, Hipolite, Southall, A. C. Jordan and Hatchett.

The Special Committee on Treasurer's Books reported that they had examined the accounts of the Treasurer and found them correct.

The Secretary read for Dr. Eberle, who was absent, his report as Chairman of the Committee on State Medicine. Referred to Publication Committee.

Dr. Orto moved to add Pine Bluff to the list of cities having waterworks and sewerage. Carried.

The report on Gynecology was read by title and passed.

Vice-president Vance was called to the chair.

Dr. Hatchett read his "Extracts from notes of six operations as performed by six European surgeons," which, after discussion, was referred to the Publication Committee.

Dr. Jennings read reports of, First, "Larva of the *lucilia macenaria* deposited in the healthy nasal cavity," and, second, "A rare case of chronic or dry gangrene of the lower extremity." The papers were discussed and referred for publication.

Recess.

AFTERNOON SESSION.

The Society was called to order at 2:30 o'clock by Vice-president Vance.

Dr. Bentley read a paper entitled, "Cases illustrative of asepis in trephining and in open joint wounds."

Dr. J. T. Jelks read reports on "Tuberculosis of knee joint, with peri-articular abscess," and on "Arthrotomy of knee joint for floating body and synovitis."

The foregoing papers were discussed and referred to Publication Committee.

Dr. J. A. Dibrell, Jr., read his reports of the following cases: "Two cases of ligation of the femoral artery for gun-shot wounds," "Three laparotomies," and "Two lithotomies."

Dr. Dibrell also presented for Dr. Dale specimens of stone removed from the bladder. After discussion, the paper was referred to the Committee on Publication.

Dr. Clegg read his report on "Ovariotomy, with complications," which was referred to the Publication Committee.

Dr. Jelks read for Dr. Dale reports of "One vaginal hysterectomy," "Tait's operation for relief of the mind," and "One ovariotomy, with complications," which were referred to the Publication Committee.

Dr. Banks exhibited a case.

Dr. Bentley read a paper on "Periostitis," which was discussed and referred for publication.

Dr. Hipolite reported "A case of puerperal fever," and the report was referred to the Publication Committee.

The Secretary read a communication from the Arkansas Department of the Woman's Christian Temperance Union on the subject of "Non-alcoholic medication." Dr. Southall moved to lay the communication on the table. Lost. Dr. Gibson moved that the communication be received, and that the Temperance Union be referred to the former action of this Society on the same subject. Carried.

The Secretary read a communication from Dr. A. L. Gihon, U. S. N., with reference to the Rush monument. On motion of Dr. Jennings, the members were requested to contribute to the fund.

The Secretary read a communication from J. H. Chambers & Co., St. Louis, stating that they had been informed that no provision had been made for exhibits at the meeting of the Society; and that it had been their custom for a number of years to have an exhibit at the meeting of each State Convention, of standard medical books and journals, and that as far as they knew the Arkansas Society was the first to prevent such exhibits; that while they would not charge that the Association, or any member of it, had been influenced by firms, manufacturing chemists and druggists who do not now wish to exhibit, nevertheless they are aware that some such firms who were among the first to exhibit at State Coventions, and have continued to do so until quite recently, have been using undue influence with the profession, etc., to prevent further exhibits at State Conventions; that the Society would so modify any former action as not to shut out the publishers of medical literature.

The Secretary stated that he had suggested to the Chairman of the Committee of Arrangements not to make any arrangement for exhibits at the place of meeting, because such displays had been annoying at former meetings by causing members to loiter in the halls and adjoining rooms, and by making noise interfere with the proceedings of the Society. Besides, it was purely a business affair, and there was no reason why the Society should engage extra space for business purposes of publishers and manufacturers. On motion, the action of the Secretary was sustained.

On motion, the Committee of Arrangements was instructed to prohibit in future the exhibition of secret or proprietary articles in connection with the meetings of the Society.

Recess.

EVENING SESSION.

The President called the Society to order at 8 o'clock.

The Nominating Committee reported as follows:

MR. PRESIDENT: The Nominating Committee respectfully report the election of the following officers for the ensuing year:

President, Z. Orto, M. D.
First Vice-president, T. E. Murrell, M. D.
Second Vice-president, J. T. Clegg, M. D.
Third Vice-president, R. M. Wilson, M. D.
Fourth Vice-president, W. P. Owen, M. D.
Secretary, L. P. Gibson, M. D.
Assistant Secretary, E. Meek, M. D.
Treasurer, A. L. Breysacher, M. D.
Librarian, R. B. Christian, M. D.

Next place of meeting, Little Rock; time of meeting to be determined by the Secretary.

We recommend an honorarium of $150 be tendered Dr. Gibson for his services as Secretary.

A. J. VANCE, M. D., Chairman.

Mr. W. L. DeWoody, a delegate from the Arkansas Association of Pharmacists, was introduced and spoke of the objects of his Association and asking the co-operation of the State Medical Society in the use of the National Formulary and in obtaining needed legislation relating to the practice of pharmacy. On motion, the President was instructed to appoint a committee of three to co-operate with the Association of Pharmacists.

Drs. Jennings and Southall were appointed a committee to conduct the President-elect to the chair.

The outgoing and incoming Presidents returned thanks to the Society.

Resolutions of thanks to the physicians and citizens of Pine Bluff, the papers, railways, etc., were adopted and the Society adjourned finally.

L. P. GIBSON, M. D., Secretary.

ADDRESS OF THE PRESIDENT,

REPORTS OF STANDING COMMITTEES

AND

SCIENTIFIC COMMUNICATIONS.

ANNUAL ADDRESS OF THE PRESIDENT.

EDWIN BENTLEY, M. D. (U. S. A.)

LITTLE ROCK.

The law of custom established by regulations, and the uniform practice of my predecessors has made it incumbent on the presiding officer to deliver an address at the annual meeting of the State Medical Society, on some subject more or less germain to the profession, involving such suggestions and recommendations as may seem to be indicated by the experience of the past or demanded by the necessities of the future. This responsibility, by your kindness and liberality, devolves on this occasion, on one who fully recognizes the need of your continued sympathy and assistance, and who approaches the undertaking with the profoundest solicitude and concern; for he would not wish to detract from the success of an organization which he regards as essential to the prosperity and happiness of the commonwealth, where all the people bow in submission and acknowledgment of that Omnipotent power, who, in adding another year to our history, has protected its inhabitants from the invasion of infectious disease from without, or the development and spread of pestilence within. Through the systematic arrangement and devices of those ever watchful guardians of the health of the people, preventitive medicine has been well nigh, if not quite, reduced to an exact science.

The State Medical Society and the regular profession of Arkansas may well feel congratulations on the selection of their place of meeting in this, the capital city of Jefferson county, named for the first and purest apostle of democracy. A leader of men who loved peace more than war, who added by his simple, wise and eloquent diplomacy an extent of territory to the nation's increasing domain, far greater than conquest could have obtained. It is surprising to think that it is scarcely more than two hundred years since the discovery of Arkansas by Marquette, and the establishment of the first white settlement by Henri de Cortez, and less than seventy years since it became a territory. It possesses an area of more than 52,000 square miles, divided into 76 counties, with a population that, nearly ten years ago, numbered over eight hundred thousand. Your own county embraces over eight hundred square miles, with a number of inhabitants lately estimated at over forty thousand. Occupying an extent of the earth's surface, with such a vast population, in the midst of the most genial and diversified climate; the most fertile and productive soil; where the people are enthused with the highest spirit of enterprise and industry; where the inclemency of the seasons never retards or embarrasses perpetual application; where all modern discoveries and improvements in the arts and sciences are being utilized to the full extent of their merit; where the system of universal and free education is not excelled by any of the older sister States; where the learned professions of the ministry, medicine and law have possessed high rank in purity of purpose, untiring zeal and distinguished

acquirements, in your own county, (where the legal talent has always been eminent,) where more than one offering has been made, which in honoring itself has done greater honor to the gubernatorial chair of the commonwealth. Is it strange then that in the midst of such surroundings as have been hastily narrated, that there should have been successfully established in the capital city of the State, a medical college of the highest order, comparing most favorably with the oldest and most advanced institutions of the country when subjected to the dread ordeal and crucial test of attainment, the percentage of graduates to the number of candidates. And this, after all, must determine the real merit of the practitioner and fix the value of an institution's diploma. Such a medical school, it may not overmuch become me to say, deserves the fostering care of every true Arkansan. Where its cliniques are open every day in the year for surgical operations and dressings, and the examination and treatment of diseases, many of which in type, at least, are indiginous to the country. Already the numbers are being reckoned by the thousands, representing various counties of the State. It has been said that such an institution deserves the recognition of the fraternity, and who does not feel a thrill of pride to-night to know that we have it? Look at the representative men from so many counties of the State; some of them coming great distances at great expense and all making great sacrifices, which they have ever shown themselves ready to do for the good of the race and the promotion of medical sciences. Ask them if this medical school, to which allusion has been made, is not their own child, their first born, on which they look for the perpetuity of those healing gifts and blessings which they have struggled long and hard to achieve.

It is not time that wise men should reflect, that in this progressive age of rapid transit, when thought and even articulate language speed away with the velocity of lightning, that the sick and wounded can be more successfully treated at home than elsewhere. The liberality and generosity of the good people of the State needs no commendation from me. Your noble and grand institutions for the deaf, the dumb, the blind, the demented and the maniacal have demonstrated the ability and will of the people, through the action of your legislators, to the enlightened public in every corner of the civilized world. But with all your charities and benevolent doings, one thing you yet lack: A public State hospital, ample enough to be available to the deserving poor of every county of this extensive domain. Poverty is no crime and must exist in every land, and inspiration has declared that the poor shall always be with us. Surely no charity can be more deserving, none more worthy, none more honorable since the Deity has decreed they shall always be. To provide for them, as we are commanded to do, the expense and sacrifice of every citizen would be far less than was made in the great example of the Good Samaritan. It is true Little Rock has lately, through the instrumentality of the Catholic fraternity, established an infirmary which fills, in its own perfect way, a niche which has long been keenly felt by those who have been wont to know the bitter sufferings its absence has permitted, or the contribution its establishment has made to the alleviation of suffering and preservation of life in critical sickness and dangerous surgical operations. When under the cultured care of experienced nurses, whose hearts and sympathies are in their work and whose self-sacrificing devotion to the sick and wounded entrusted to

their care is worthy of higher commendation than I have the ability to bestow; yet there remains a vast field for which no provision has been made, and for which the workings of the Little Rock Infirmary have only shown the greater need and necessity; where all classes and all races may partake of the State's beneficence. Permit me, therefore, to commend it to the special attention of the State Medical Society, those immortal benefactors of the commonwealth, who have wrought out and established the great charities to which brief reference has been made, and which makes up the crowning glory of Arkansas.

It has been made apparent to me that in a popular audience, something of the relations which exist between the doctor and the people should receive a degree of significance worthy of the highest import and consideration. In your own capital city we have a fitting example of the doctor's activity, adventure and success; for among the first white men who adorned your beautiful bluffs, was Dr. John Pallen, of North Carolina, who, in 1832, began selling lots and soon became postmaster, better success than is likely to attend many a disciple of Esculapius who has emigrated to Oklahoma, for it is not always that a good doctor succeeds so well as to have lots to sell or attains the rank of postmaster, or establishes a postoffice, for it is not in this line that their most brilliant services appear, but rather in the midst of the trials and afflictions to which every household more or less is subject.

My predecessor in his learned address, one year ago, portrayed to his listening audience, as only a philosopher and a medical historian could have done, the character, ability and attainments of the regular physician from a period anterior to any authentic record down to the present time. And he reasoned most truthfully, for, wherever human beings have been found, from the most savage or barbarous tribes to the most enlightened races, the doctor or medicine man has always been regarded as a recognized necessity. Indeed, the presence and the work of the general practitioner has become so much a matter of course, that his arduous and skilled labor and advice, is often overlooked, disregarded or unappreciated in the vain pursuit of something new or novel. To be cured by a charm or incantation is something wonderful, but to be cured by a visit from the family physician is a very commonplace affair. Who does not know that these things are being done every day, but often in so modest and unpretending a way that the family is not frustrated or the community agitated. A life has been saved, a limb preserved, premature decay prevented, reason restored, malignant disease thwarted and chronic tendencies entirely overcome. Such are the examples of the constant work of the general practitioner, but it is so much his habit and his way; indeed they are the ways of the profession—they neither ask nor receive heralds to bear on the wings of boasting flight their successes.

How different is it with the public crier; yet all run out to test the goods on market; it is such a wonder and such a rare opportunity, without ever stopping to think that it is never in this way that the finer and more valuable articles are ever offered. In medicines, novelties are exceedingly taking and remind me of the story of the early pioneer, who, while taking his sack of grain to the mill on his shoulders, became, after traveling some distance, very weary, and on meeting a stranger, who seeing his condition was ready with gratuitous advice, was recommended to try an old device which he had found very useful. It was so very

simple and could do no hurt if it did no good, so he resolutely determined to try it. The remedy consisted in adding a good sized log to his present burden and proceed as far as he could; when he could go no further, throw off the log and the sack of grain would have become a much lighter burden and he would be able to reach the mill much relieved. It is in this way that multitudes fancy themselves benefitted by the costly blood purifying agencies that have unconsciously added to their burden of disease.

The unceasing devotion of the general practitioner is forgotten or ignored, yet his unremitting attentions go on alike in the coldest or hottest clime; the darkest or the stormiest night is regarded by him as but the fairest day, only that he may serve his patient, alleviate suffering and save life.

Who is this general practitioner? He is the unfailing counsellor in life's most bitter trials; who has always means to palliate what cannot be cured, who has a heart full of sympathy for other's woes, with a spirit also to share in all your triumphs and participate most gladly in your highest joys.

The vilest criminal that ever disgraced mortality, the greatest benefactor of the race, the most depraved sinner, the most devoted apostle, the most unsophisticated heathen, the most enlightened christian, each and all may apply to him without reserve no matter how accomplished or how repulsive, it is enough for him to know that they bear the physical habilaments of humanity, to receive his unreserved attentions. And even the brute creation are often the subjects of his mercy and beneficence. There is no wound or injury that ingenuity can imagine, no disease within the range of mortal afflictions that he does not know how to treat. He has always been an essential associate and adviser in the domestic circle from the times when the earliest pioneers skirted your forests, guided only by the blazed trees, regardless of the beasts of prey or the fiercer wild men, to the trusted companion and counsellor of emperors, with all their train of costly array. Can such men be altogether forgotten and dispensed with? You know it is impossible. They may be overlooked or obscured for a time by the gilded effrontery of presumption, but when, in greater distress and sorrow, you turn back to them, they receive you with a charity and commiseration that would seem to trace its lineage to the forgiveness of the gods.

A few years ago, Dr. Owens, of London, declared that he wished no higher honor than to be a general surgeon. Who needs wish for himself a higher honor than to be a general practitioner? Men of the greatest merit, and possessed of the highest attainments, morally, intellectually and professionally, wherever found; men who have borne the true banner of medicine through the long vista of the ages, working always for principle and the good of mankind. With an historic ancestry like this, it is not strange that, from force of inclination, surrounding circumstances or particular adaptation and fitness for certain branches of our profession they have finally given their undivided attention to some specialty. In this way classes of specialists have arisen and developed, who, as scientists, have astounded the world with their advances and brilliant successes, contributing not alone to their specialty, but in a large degree to the parent stock from which they emanated, their thorough knowledge of which, in the beginning, has been the basis of their triumph in later times. You need not be referred to the progress of the last few decades in preventative medicine, the attention which sanitation

and hygiene receives, and the revolution which asepsis and anti-sepsis has made in the management of the sick and wounded.

Specialists of the true character are worthy of the high consideration which they everywhere receive. They are the product of growth and development. They are not made. Those who claim to be, and palm themselves on a credulous public, are like spurious coin that has never passed the mint, and does not possess the properties of the real metal.

Through all medical history it appears to have been the constant effort of the profession to purify itself, and a proper recognition of the competent has always been made. Now it remains for the regular profession to adhere with persistent vigilance to its primative tenets, to cultivate itself and to legislate for itself until it shall arrive at that perfective success and development which shall satisfy the most scrupulous.

To depend on legislatures to pass bills, to establish laws that concern our great art, though they are entirely in the interest of the general public, has proven in all the past but a suicidal experiment. The noblest effort the profession has ever made towards an organization embodying rules and regulations, at once wholesome and salutary, is the Code of Ethics, so ably discussed one year ago. It will be clearly seen by reference to the addresses of Dr. George Cowan, of Kentucky, and Prof. N. S. Davis, of Chicago, together with the able and erudite report of your Committee on Medical Legislation, that all efforts to obtain just and fair medical legislation have proven but abortive failures. All that has been done has been altogether attributable to the moral force of the advocates themselves, and, after all, it has more often resulted in the benefit of the opposition than the cause it was intended to advance. So early as 1885, President Hurley, in his annual address, set forth in the purest terms the futility of all efforts in the way of medical legislation. All who would wish to see a concise statement of the whole matter are respectfully referred to his masterly and logical address. The time, in my judgment, has come for the profession to act for itself and in its own interest. Through these many years, with becoming self-sacrificing devotion, it has labored for its constituency, and now having so signally failed in its efforts at recognition by legal or legislative endeavors, it is high time for it to fall back on the dignity of its own resources, which have ever been boundless and resistless, and form a standard of conservatism of its own erection, as stable as it will be powerful, for knowledge has ever been recognized as the type of power, and it will have erected a bulwark as immovable as are the Gods of Medicine.

The nation should have a central congress, each State a legislative branch and each county an official representation, with its board of examiners to determine who are qualified and worthy of fellowship and who are not. Then we would have a brotherhood possessed of a standard of qualification which none could ignore or fail to respect. Then we would be left to deal with that most subtle of all properties which fixes the honor and integrity that exists between gentlemen. Yet it admits of no higher formula than was established by the golden rule "of doing unto others as you would that they do by you." When this condition is universally reached, some of my hearers may conceive that the millenium is near, if not even already at the door.

If we are to ever rise, we must look upward; to advance in the future it is often

well to take in retrospect the past. In this view it will be found profitable to consult the annual addresses before the State Medical Society of Arkansas from its inception; from its first President, now a distinguished alienist, down to its last publications, and much will be found of which we may all be greatly proud. Its liberal views, its advanced ideas, its strenuous efforts, its wise recommendations in every branch and department for the advancement of conservatism and preventative medicince, all contributing to the approaching grand idea, brilliant and final in itself, when the doctor shall be consulted and paid for his advice for prescribing how to avoid rather than how to cure disease.

Sanitation can never prevent accidents, but already the treatment of wounds has advanced so far that their gravity is now estimated by the mischief that has been primarily done, rather than the secondary consequences, which were wont in earlier times to follow.

The profession of medicine has nothing to fear; it has lived through the ages and all history proves it to be coeval with man. Its greatest opponents have ever been combatants of its own creation. It may and should depend on its own dignity, and nothing need be more efficient for it than its own combined strength and harmonious organization.

Prof. Bartholow, of Philadelphia, in a published address, has clearly shown that even the wild craze of Hannemahn is quite forgotten in the land of its conception, and it is only perpetuated in America by the antagonism it has received.

When we reach the sagacity to overcome the worse than futile tirades, so often made against it, in the vain attempt to persuade people against their will, it will die of inanition, the most natural of all deaths for such a bubble, for it is a law of nature that infinitetessimalism can support nothing. The genuine article never suffers in the presence of a counterfeit, and it is wise to let the latter entirely alone. If we handle it, however gently or roughly, we may give it a circulation it would not otherwise have had.

The grand old temple of medicine should never be approached with spurious keys. It should only be sought with that true love and devotion by which the pure are wooed and wed.

In conclusion it becomes my pleasing duty to congratulate the State Medical Society on the noble work it has been doing these many years for the good of the profession and the people of the present and future generations; on its able and faithful Secretary, of whose persistent and devoted work none need speak in more conscious terms than the presiding officer; on your ever reliable Treasurer; on your efficient, zealous and laborious committees; on the selection of Pine Bluff as the place of meeting, the seat of so many deeds of heroism and of chivalry, the last grand encampment of the Quapaws with their pure Indian Chief, where a freedman has become a railroad chief, where the chief of the railroad chieftains lashes his iron horses along his southwestern system, and finally, where the fair sex is now and ever has been the friend and advocate of the general practitioner, when she so largely and freely contributes to the encouragement and entertainment of the State Medical Society of Arkansas.

Woman, ever great and grand,
For right she takes the boldest stand,

A champion without a fault,
Pure medicine she ever would exalt.

Full devotion she ever brought
Enshrined in every act and thought;
From duty she never shrank,
In faith she held the highest rank.

In the darkest hours of toil,
When all was trouble and turmoil,
She has ever been the constant friend
On whom the Doctor could depend.

In the brightest hours of joy,
When victory all our thoughts employ,
She would join in hopeful glee,
With her softest melody.

Could we now a tribute bring,
Worthy of a Chief or King,
We would lay it at her feet
And bid the world in homage greet.

Of all the gifts that to man were given,
From the banquet house of heaven,
Women were found among all the rest,
To be the loveliest and the best.

REPORT OF COMMITTEE ON PRACTICE OF MEDICINE.

A. J. VANCE, M. D., CHAIRMAN.

HARRISON.

MR. PRESIDENT: Your Committee on Practice of Medicine has been remiss in its duty as the following meagre report will show. By way of explanation I will state that two months since I wrote to each of the eight members on the Committee with me; two responded promptly with reports; two responded by saying that they had nothing to offer, and the remaining four I have never heard from. In waiting for these reports I found my time very much limited.

There has been nothing startling in the practice of medicine during the year. We have not been visited by severe epidemics, nor with aggravated endemics to any great extent. The diseases we have had to treat have been about the same as of previous years.

Lobular pneumonia has prevailed endemically for the past few years, and as there are a few peculiar features attending this form of pneumonia it will probably not be out of place to give it more than a passing notice.

It is a difficult task to present anything new on a subject upon which there has been so much written as pneumonia, but we find ourselves prone to discuss those diseases that worry us most. Lobular pneumonia does not always follow influenza or bronchitis, as most writers claim. It frequently happens that the physician is not called early in the attack, not until the pneumonia is fully developed and it is a difficult matter in such cases to determine whether it has occurred primarily or as a result of a bronchitis, but the history, sudden onset and absence of cough and other symptoms of bronchitis in some cases, are sufficient to justify the opinion that it may occur primarily.

The opinion that it is always bilateral is not correct. I say this with due deference to those who hold a different opinion. It frequently occurs in one lung only, or a part of one lobe may become affected, small "patches" of lobules becoming the seat of inflamation and these being scattered throughout a lobe or one whole lung. Again one lung may be completely solidified and the other remain normal, thus resembling the croupous variety.

It is remarkable how rapidly the lungs become infiltrated in some cases, the affected lung becoming completely solidified in a few hours, the breathing entirely bronchial and no rales being heard at all. One case is reported to me from one of my confreres: A negro boy who was attacked suddenly and died within 20 hours. This occurred during an epidemic in March, 1885 in and around Harrison, which was attended with a dreadful mortality. Prior to that time, the croupous variety prevailed altogeher, and it was a common remark among physicians that patients with pneumonia should recover in all cases except in the aged and in very young children, but since the epidemic referred to every case is treated with a certain degree of anxiety.

The greatest danger to life is the rapid infiltration of the lungs with deficient absorption or even none at all. The pulmonary area open to respiration becomes rapidly diminished and the respiratory muscles become weaker and weaker until pulmonary collapse and carbonic acid poisoning are developed. Sometime areas of dullness are noticed over one portion of the lungs at one visit and the next day they will have disappeared and similar areas will have appeared in other portions of the same lung or in the other lung. The changes may be partially due to a transitory pulmonary collapse of the lung tissue, such cases pursue such irregular courses that it is impossible to form an opinion what the probable condition of the patient will be in 24 hours.

Pleurisy rarely occurs as a serious complication. In fact it is generally conspicuously absent.

Another peculiar feature in this form of pneumonia is the appearance in some cases of gastro-intestinal inflamation as a complication, especially entero-colitis. I have also seen peritonitis and pericarditis occur as troublesome complications.

The treatment of lobular pneumonia is quite different from the heroic treatment of croupous pneumonia of a quarter of a century ago. However badly the patient endured the depressing effects of venesection then, he would be less able to endure it in lobular form now. The anti-phlogistic treatment formerly employed is supplanted by a supportive treatment together with such means as will encourage expectoration and promote absorption of the inflamatory exudates. Syr. senegæ, syrup or wine of ipecac and carbonate of ammonia are the remedial agents usually employed to relieve the inflamed lungs. Opium is contra-indicated in most cases as it is liable to increase the pulmonary congestion—benumbs the excitability of the nerves and lessens the desire to cough thereby discouraging expectoration.

During the past year more new remedies have been introduced probably than during any previous year. Some have stood the test of experiments and severe criticism. Others have been discarded on account of some unexpected unfavorable action and have sunk into oblivion. Others are still upon trial with a fair prospect of becoming valuable additions to the materia medica.

Antipyrine seems to lead the van. Its use has become so general that the laity buy and take it almost daily, or as one writer expresses it, "they keep it on tap." We can hardly look through a medical journal without reading something of the good or bad effects of antipyrine. Reports concerning its action are very contradictory, yet it maintains its reputation and is used more and more every day in nearly all civilized countries and notwithstanding the fact that it has been introduced to the profession several years, almost every week now, we notice some new property ascribed to it.

It was first used as an anti-pyretic, but it was soon found to have a decided influence in relieving pain, and is used in all headaches and neuralgia, more especially in migraine, in which it not only gives almost immediate relief but some claim that it gives immunity from future attacks. It was first given in 8 grain doses every hour until relief was obtained but in some cases it was necessary to double the dose, although a dose of 5 grains has caused disagreeable and even distressing symptoms.

Dr. McReynolds and Dr. Minor report satisfactory results from its use in dysmenorrhœa. It is given either by the mouth or as an enema. One case is reported in

which the menstrual flow stopped, the patient taking a chill, the extremeties becoming cold and cyanotic. It has been used for the relief of uterine pains after parturition and consequently recommended for the mitigation of pain during labor, those who advocate it, claiming that instead of increasing the duration of labor it tends to shorten the time of the first stage and no bad effect could follow to mother or child. Dr. Pinzani, however, exploded the theory in a series of experiments from which he concludes that the drug relieves the pains ot labor simply by lessening the force of uterine contraction, and that infants nursed by women who had taken antipyrine during labor were liable to suffer from diarrhœa. Therefore he condemns its use in obstetric practice.

As an anti-spasmodic it is used in purtussus to lessen the paroxysms and if possible to shorten the attack.

It is also favorably reported for its curative effects in chorea; large doses are given three times a day so that a child 14 to 15 years of age takes a maximum dose of 60 grains in the 24 hours, and discontinued or size of dose reduced when disagreeable effects are produced. The drug is given with a view of giving temporary relief from the choreic movements and also to give immunity from future attacks.

Dr. McReynolds reports "fair results but nothing permanent," and thinks it does not compare with liquor potassi arsenitis. The same gentleman writes: "In four patients suffering from hay fever I have prevented the acute attacks by large doses of antipyrine, 15 to 25 grains every three hours. The doctor also says that in nocturnal emissions in stout plethoric subjects, 10 grains before retiring have acted admirably in six cases but signally failed in three.

M. Panas has found that it has an anti-glycogenic action and consequently recommends it in some cases of diabetes.

It has been used with benefit in laryngismus stridulus, nervous vomiting of pregnancy, seasickness, muscular rheumatism, and to relieve the troublesome cough of some forms of bronchitis.

An eruption on the skin occurs in about ten per cent. of the cases in which the drug is given, generally after the continued use, though in some cases after a single maximum dose.

Antipyrine exercises a toxic action in exceptional cases. Dr. Northup, of New York, reports a case of a lady who took 15 grains with one-half table-spoonful of whisky and on an empty stomach, and was soon unconscious with extreme general relaxation—no pulse at the wrists, no sensativeness of the conjunctiva and no amount of irritation could arouse her. She was relieved by the hypodermic injections of whisky, but the headache for which she had taken the drug still continued. At another time the same patient took 5 grains on a full stomach and with a table-spoonful of whisky, which was followed by sneezing, troublesome urticaria and diffuse hyperarmia of the skin and severe dyspnœa.

Antifebrine or acetanilide, first introduced in 1886 as an anti-pyretic is now used like antipyrine, as a sedative to the nervous system, but in the battle for supremacy with its sister remedy, it has been relegated to the rear. It is used for the various headaches and neuralgias, and to relieve the pain of rheumatism.

Dr. Austin Flint reports a case of long continued sciatica cured in 48 hours by the use of antifebrin where the usual remedies had failed—50 grains were given

the first day in 4 hours; the patient became cyanotic and weak, but was relived by a dose of whisky. Forty grains were given the second day and the third day the patient was completely relieved.

Sulphonal recently introduced, promises to be a boon to a certain class of suffering humanity and while it may not have entirely established itself, it has been sufficiently tested to gain the confidence of the profession as a hypnotic. So far it has given excellent results in insomnia. In 212 cases reported by one writer in which it was used, it proved fruitless in only 24.

Prof. Cramer gave it 200 times in the Warburg Lunatic Asylum with a happy effect in nearly every case, the patient sinking into a quiet and tranquil sleep. Most of them awoke feeling perfectly comfortable, a few felt tired and sleepy the following day.

In our own State Dr. Worcester, assistant physician to the State Lunatic Asylum, has used it in 17 cases, producing the desired result in every case but one. This case, a large, powerful man, in a state of violent excitement proved entirely refractory. Three doses of 20 grains each were administered during the night but failed to affect him in the least. In the other cases 20 grains was the maximum dose and sleep was produced in each case lasting from 5 to 8 hours. No bad effects were noticed on the circulation, appetite, digestion or general conditions of the patients. It was found not only unnecessary to increase the dose from day to day but the same dose seemed more effective in the latter than in the earlier part of its administration.

An hour and a half to two hours elapse before the full effect of the drug is obtained and seems to exert its physiological effect 24 hours after being administered, that is, administered at night, no lassitude is noticed the next day, yet the second night sleep is obtained without the drug having to be taken. In my limited experience with the use of the drug I have not observed such an action.

No toxic effects have been noticed from the use of sulphonal except a slight intoxication, but the symptoms did not pass off until the sixth day after it was discontinued. It seems to be freer from deleterious effects than any hypnotic of its class, but like all remedies affecting the nervous system should be given with some degree of caution. Some patients complain of a feeling of lassitude the day following its administration. It does not act as quickly as chloral hydrate but its effects are more lasting and less liable to depress the action ot the heart. It is more efficacious in nervous subjects especially the insane, but is given with benefit in all cases of insomnia or where a hypnotic is indicated. It is also prescribed as a substitute for morphia with a view to curing those with the morphia habit. In giving it as a soporific it has been noticed to lessen night sweats and further experiments showed that they could be prevented by it. Its action simulates that of atropia, but the effects are more lasting, the sweats of the second being less profuse.

There are other new remedies that deserve notice but time will not allow.

THE LARVA OF THE LUCILIA MACILLARIA DEPOSITED IN THE HEALTHY NASAL CAVITY.

R. G. JENNINGS, M. D.

LITTLE ROCK.

The screw-worm is the product of the *blow-fly*, known to science as the *lucilia macillaria*. So far as has been known of the history of this fly, its oviposits have been only upon raw surfaces and open wounds; and while usually it was thought to be confined to animals only, but more recently cases are comparatively common in which it has affected the human species in the manner already described.

I have often heard cattle dealers, herdsmen, and farmers speaking of these terrible pests infesting wounds and raw places on their cattle, particularly wounds following the operation of castration of their young animals. I have also been familiar with various other forms of worms that are bred in animal and human tissues originating from the deposit of the larva of very different flys.

Dr. G. W. Christian, of Bennett, Tex., reports in *Daniel's Medical Journal*, the case of a six year old boy, who had a swelling develop on his back which was taken by him for a boil until the appearance at its apex of the head of a grub worm known in that region as the product of the ovi of the "heel fly," which being removed, the part was soon restored to its normal condition. How the oviposit could have reached this point he could not explain or divine. If conveyed to the mouth in any manner, in rare meat, bread, or fruits, and thence to the stomach, how could it have traveled from there, unless before being fully developed it had worked or bored its passage through the different tissues until it appeared at the surface of the body on the back as a full formed grub. Or in its ovi form it had been taken up by the secreting vessels of the stomach, and through a very circuitous route, had been left in a sub-cutaneous capillary, and there developed, could as a matter of course, only be a question of speculation.

Cases of the deposit of the larva of the common house fly on wounds or sores which exuded blood, bloody serum, or pus in hot weather, is of extremely frequent occurrence, and the rapidity of their production marvelous, while their effects are often horrible to observe.

I have also read quite a number of reports published in various medical journals of the development of the screw-worm in the human specie which had proved rapidly fatal, but I never chanced to meet with an individual illustration of their actual existence in the living tissues of the human being until last fall. In this instance, however, the oviposits, from all that could be learned from the person infected, must have been placed in the healthy nasal cavity, but how, and under what circumstances can only be conjectured. Oct. 22, 1888, I was called to see a negro man about 33 years of age, whose occupation was a teamster. He was complaining of intense cephalic pain which he described as being confined to the forehead and upper portion of the face and nose between the eyes.

The nose, eyes, particularly the left, which was bloodshot and much worse than the other, with the tissues covering the face and forehead contiguous, was swollen of a reddish color, hot and painful. The nose, mouth and eyes were discharging continuously a thin, icherous, mattery exudation of an extremely pungent odor. He stated that he had a severe chill the day previous, and had been suffering with his head since then to such an extent that he could hardly endure it much longer. He then had considerable fever, with a heavily coated tongue and a terrible fetid breath. I could discover nothing indicative of what afterwards developed, as the nostrils were so swollen as to be wholly closed together, besides he could not bear me to touch these parts, they were so extremely sensitive.

I could only therefore regard the case as of malarial origin, with local inflamatory manifestations that I could not possibly then determine, and I prescribed for him accordingly. The next morning I was again very early summoned and upon arriving he seemed unusually excited, and showed me a worm, which he stated he had felt in his throat and had coughed it up. I examined the animal carefully and became convinced that it was a veritable *screw-worm*. The negro's excitement increased to a terrible pitch, and he declared that his head was full of them, and he could feel them wriggling about in a manner that almost drove him wild.

I at once returned to my office, obtained some chloroform and a good, forcible atomizer and soon as I reach the man again I commenced throwing a strong spray of chloroform high up into the nostrils, and the result was almost wonderful, for the worms kept dropping down and being thrown out rapidly, until fifty-seven of the brutes were counted. Quite a number of others followed upon repeating the spray at intervals. This method of management was completely and rapidly successful, and in a very few days the man returned to his usual avocation, the swelling of the face and other concomitant symptoms gradually subsiding, when the tissues regained their normal condition.

The man could not imagine or offer any reason why or how the screw-worm got up his nose. It is possible, and quite probable, that he may have had the *nose-bleed*, or only a slight hemorrhage from the nose, from some lesion of the pituitary or Schneidasion membrane and in the heat of the day had laid down and fell asleep, a very common occurrence among these people, and while thus asleep the lucilia macillaria, or blow-fly may have deposited her larva in the nose, and in time developed into the screw-worm and the result detailed.

This, however, is merely conjecture, as we have no positive evidence of any lesion whatever, or that there was the least hemorrhage from these passages, we can but believe that the oviposit of the lucilia macillaria or blow-fly was made in the secretions of the healthy nasal cavity and were developed therein, until they were detached in the manner we have mentioned.

ADDRESS ON SURGERY.

T. W. HURLEY, M. D., CHAIRMAN.

BENTONVILLE.

MR. PRESIDENT AND GENTLEMEN OF THE SOCIETY: I shall not attempt anything like an elaborate *resume* of the surgical work and advancement for the past year. While there has been a very considerable amount of work done, there has really been but little scientific advancement. Therefore, what I have to say in this regard will be very short, as it is my purpose to devote this paper to a particular subject.

While the work of the past year does not reveal the degree of progress which I had hoped to record, yet there are some few things or events, that are noteworthy and to which I will briefly call your attention, and then pass to the main subject of this paper.

Cerebral surgery is advancing, and it is in this direction that we may confidently look in the near future for the most wonderful triumphs of surgical procedure. The surgeon's hand is no longer weakened and paralyzed by the dread of meningeal or cephalic troubles when he thinks it necessary to invade the skull. When Baron Dupuytren, in the pre-antiseptic era punctured the brain to the depth of one inch for traumatic cerebral abcess, and the patient recovered, his compeers thought it a reckless and haphazard business.

While Dupuytren's operation and its successful result may be "regarded more in the light of a specially lucky chance" than as one constituting a justifiable procedure from his previous knowledge of anatomy and physiology, and hence a knowledge of the localization of brain function, injury and disease, or that it was suggested by a surgical genius such as few, if any, have ever before or since possessed, matters not now, for we know that the rarity with which the operation has been undertaken has doubtless, to a large extent, been due to the difficulties—now happily done away with—of localization of brain functions, and also to a lack of confidence in dealing surgically with such conditions, which of late years we have obtained from a clearer and more thorough knowledge and appreciation of antisepticism.

Topographical areas of brain, localization of functions, and relation of convolution to surface of head, are all sufficiently well understood to enable those who try to point out circumscribed cortical and sub-cortical diseases or injury and apply the remedy. Cerebral surgery is advancing, and will soon occupy a position well abreast with that of abdominal surgery. To those younger members of our Society who are anxious to attain to honorable distinction in the profession, I would say, there are bright laurels to be won in this direction.

Modern surgery has made its greatest advance and has achieved its most signal triumphs in connection with operations performed in those cavities of the body which are lined by a synovial or serous membrane. The older surgeons did not

dare to attack the joints and the cranial, thoracic and abdominal cavities, but the surgeons of to-day perform the most daring operations here with confidence, and are rewarded with a success which at first sight appears almost marvelous. None are achieving more or greater success in abdominal surgery than our own countrymen.

Among the noteworthy events of the past year in abdominal surgery is the proposal of Dr. Nicholas Senn, of Milwaukee, to employ insufflation of the intestine with hydrogen gas as a means of diagnosis in abdominal wounds. This is undoubtedly the most novel and perhaps the most valuable contribution to our surgical knowledge during the year. The generation of this gas in the alimentary canal under certain conditions will, however, I fear, detract from its value as a diagnostic agent when artificially introduced.

Troubles in the vermiform appendix have attracted more than usual attention, but it seems that the death rate in operations for these troubles has not been materially diminished. Whether this is due to haste or delay in resorting to operative measures; or to the want of proper antiseptic precautions I can not say.

Intubation of the larynx has been practiced more extensively than any previous year, and with a success quite satisfactory. This has become an established operation. A stricter observance of the rules of antisepsis will increase its popularity and add to its per cent. of success.

I will now call your attention to the main subject of this paper, which is:

SENILE HYPERTROPHY OF THE PROSTATE GLAND AND THE VESICAL TROUBLES ARISING THEREFROM.

There is perhaps within the whole domain of surgery no subject more perplexing and difficult than that of the correct diagnosis and treatment of diseases of the bladder and prostate gland in elderly men, and more especially is this the case with young practitioners in the country districts, and for whose benefit I have attempted to write this paper.

I have had an infinitude of trouble in trying to treat these cases, and this perhaps has caused me to give more attention to these troubles than do most country practitioners.

Chronic retention of urine is a slow and insidious process, by which the bladder often becomes gradually over-distended without the patient being aware of the fact. This retention may not become complete for weeks or months, or, it may always remain incomplete. In chronic retention there is always loss of power in the contractile efforts of the bladder with impaired sensibility.

Chronic retention of urine arises from the following causes: (1.) From gradual progressive, but often incomplete closure of the urethro-vesical orifice by an enlarged prostate; (2.) From atony of the bladder which has not been the outcome of prostatic enlargement, but of a urethro-vesical muscular valvule or urethral stricture, of a stone, or of tumor, and (3.) From neglected acute retention. The most frequent of all the causes of chronic retention in elderly men, is hypertrophy of the prostate. This, as is well known, obstructs the urethro-versical orifice in one of these ways: (1.) By an enlargement of one of the lateral lobes in the direction of the bladder, or of the urethra, constituting what is technically termed unilateral hypertrophy; (2.) By a single rounded or crescentic valvular

projection of the middle portion, or as Mercier terms it, supra-montanal hypertrophy, and (3.) By hypertrophy of both lateral lobes and the middle portion, which is general hypertrophy with a central tumor or a crescentric valvule. When the lateral lobes only are equally hyperthrophic,—equilateral hypertrophy—there will not likely be any stagnation of urine and consequently no cystitis. The prostate increases so slowly that at first it gives rise simply to partial obstruction, hardly perceptible in many instances, after a while however, a little more urine—an ounce or two—remains behind in the *bas-fonel*, this creates sufficient irritation to cause the bladder to make frequent contractile efforts to expel it, and to wrestle as it were, for a time with the obstacle. This constant wrestling of the bladder with the obstacle, or rather against it, causes hypertrophy of its muscular coat. By and by, after a lapse of many weeks or, perhaps months, as the obstacle becomes greater, the expulsive efforts are less vigorous, the bladder becomes sluggish and still fails to expel the last few ounces of urine, which soon decomposes and creates a sub-acute inflammation of the vesical mucous membrane, which is not unfrequently propagated to the connective tissue of the whole thickness of the organ, resulting in sclerosis of this connective tissue. There follows, of course, impairment of sensibility as well as of expulsive power on the part of the bladder, which is then said to be in a state of atony. Often the patient is not aware of the existing distention of the viscus. He is able, by the assistance of his abdominal muscles, to void a little urine in a small stream at frequent intervals, or the urine may dribble out constantly, and by this he is deluded with the idea that he is passing too much water. The urine—more of which is secreted than can be expelled—slowly but steadily increases in amount to the extent of greatly overstretching the already atonied muscular coat, and the bladder becomes wholly inert. This accumulation of decomposing urine will not only give rise to inflammation of the whole mucous membrane, but to ulceration, and sometimes, even to perforation of the bladder.

Again, though it may be considered a digression, we may have chronic retention of urine in elderly men, due to a muscular valvule, urethral stricture, stone, and tumors of the bladder.

Narrow urethral stricture of long standing frequently causes retention of urine, and the pathological changes that give rise to this trouble are very nearly the same as those described under the head of chronic retention from prostatic enlargement, the main difference being that the obstruction is in the urethra proper, instead of the urethro-vesical orifice. There is the same wrestling with the obstacle, which leads to hypertrophy of the muscular coat of the bladder, to atony and stagnation of urine and cystitis. Stone in the bladder gives rise to chronic retention of urine by first causing cystitis, not only of the *bas-fonel*, but of the vesical neck, in consequence of which spasmodic contracture takes place of the muscular fibres that form the normal urethro-vesical valvule of Mercier, and when this contracture is permanent the muscular valvules may be said to exist. This valvule is sufficient to act as a barrier which prevents the complete spontaneous emptying of the bladder and the result is stagnation or chronic retention and cystitis.

Tumors of the bladder—even those that do not at times directly close the urethro-vesical orifice—also by giving rise to cystitis, which is often sooner or

later followed by muscular valvule, causes chronic retention and atony. In fine, anything which will excite the development of muscular valvule is at least an indirect cause of chronic retention of urine.

We have occasionally chronic retention arising from neglected acute retention. An elderly man who has little, if any appreciable prostatic enlargement may, from exposure have an attack of acute retention, which if neglected or unrelieved for two or three days, or does not receive adequate subsequent treatment, will have chronic retention, followed by atony of the bladder. It is only when the bladder is thus suddenly over-stretched or suddenly paralyzed, that positive atony can take place.

I have already said that often there are no rational signs of the existence of chronic retention, especially when due to prostatic hypertrophy. When they do exist they are often misleading to the patient and sometimes also to the medical attendant. While in the earlier stages of prostatic enlargement there are no appreciable symptoms, yet the moment that the urethro-vesical orifice is in the slightest degree impinged upon, there is a change in urination, though so little and so gradual that the patient can remember it only after his attention has been recalled to the nature of normal micturition; after this and much cross questioning, he will finally admit that, for several months prior to the advent of these distinct symptoms, which for two or three years past might well have caused him some anxiety, the jet of urine had not been propelled with its usual vigor, and that it sometimes dribbled for a few seconds after the apparent close of the voluntary act of urination; but he had ascribed this to advancing age, and had given the subject no further thought, and did not for a moment suppose that it could be the incipient stage of a coming serious infirmity. He will then say that for the past year or two the symptoms in question has been increasing quite noticeably, especially when he suffers constipation, that he has been urinating with undue frequency by day and by night, that at first he was never satisfied with what came away, for the desire to pass urine was as great as if he had passed none, but of late, he had ceased to suffer in this way. The bladder had then lost the power to to wrestle with the obstacle; in other words, atony had already ensued and positive inertia is imminent. After this a little urine is passed every hour or half hour, and then, frequently a constant dribbling is set up. But, even these phenomena are very often misinterpreted, for the frequent micturition or the involuntary dribbling, leads the patient to think that he is passing too much water, and that means should be taken to repress this supposed undue flow.

It is for this that he usually comes to consult the surgeon, and he is not a little surprised when told that this undue flow indicates retention rather than incontinence of urine.

Often, lumbago or sciatica is the most prominent symptom of chronic retention of urine. Elderly men frequently come to consult me for sciatica, who declare, when questioned, that all is right with their "water-works," and at first refuse to be examined; but when the catheter is introduced immediately after four or five ounces of urine has been voided spontaneously, and a pint or more of stale urine is drawn off, they express some surprise; but it is not a little difficult to convince them that the real serious trouble is the retention, its cause being an enlarged prostate, and the sciatica only one of the remote effects. While it is proper to

give some local remedy for the sciatica, the attention of the patient should especially be directed to the proper and systematic use of the catheter, otherwise the urine will accumulate in the bladder to the extent of a gallon or even sometimes to more.

When a patient who is tormented by frequent but incomplete acts of urination, obstinately refuses to seek surgical aid, his case progresses somewhat as follows: His sleep is greatly disturbed, either by these constant desires to urinate or by the dribbling urine; his appetite fails him, and all his other functions are soon more or less impaired. Uritative fever supervenes from existing cystitis, and the steadily accumulating purulent, slimy urine. He has dull pains from the distention of the ureters and renal pelvis, his bowels are constipated and tympanitic; his tongue is parched, his speech is incoherent, his skin is dry, except toward the last, when it may be covered with cold sweat, partly as a result of general relaxation, partly as a final effort of nature to eliminate effete material. Very little urine is now passing away, perhaps none, although the bladder is still full; the functions of the kidneys become more and more impaired, until finally it ceases entirely. He then sinks into a muttering delirum from which he is with difficulty roused, and he dies from the combined effects of urinous, purulent and fecal intoxication.

The pathological lesions usually found in such cases are: A well marked urethro-vesical obstruction, an atonied, columnar, thickened bladder, containing a quart or more of chocolate-like, fetid, slimy urine, this having been washed away, the mucous membrane is brought to view and shows signs of long-continued inflammation, the ureters dilated to an inch or more in diameter, the pelvis of the kidneys distended with slimy urine to three or four times the normal capacity, and the kidneys themselves in a state of interstitial inflammation with many abscesses. Sacculation of the bladder is another lesion consequent upon stagnation of urine. This occurs in two forms: (1.) A single pouch of from half an ounce to several ounces in capacity, or there may be multiple diverticular, from two to six in number, and (2.) Numerous small sacks, containing from a few drops to a drachm or two of urine, like so many herniæ of the mucous membrane, thrust outwardly between columns of the muscular fibres. The stale urine lingers more or less in the sacks, particularly in those which, by reason of their obliquity and small orifice, are never completely emptied; ulceration begins in the bottom of one or more of these, and extends itself through the outer coats, ending in perforation of the bladder. When this occurs peri-cystic abscesses are the result, or some urine makes its way into the peritoneal cavity, or is infiltrated in the pelvic connective tissue. I have witnessed and assisted in three dissections in which these pathological lesions were plainly demonstrated; the first by Drs. Stone and Chopin, of New Orleans, thirty-one years ago. In this case there were two peri-cystic abscesses on the right side of the fundus, and another where the perforation had taken place in the recto-vesical *cul-de-sac*. The diagnosis of chronic retention of urine is often difficult, and is sometimes never made. This ailment has been confounded with peritoneal dropsy, obscure abdominal tumor, cancer of the liver or of the omentum, hydronephrosis, hydatid of the liver or omentum, but while some physicians have committed these errors in their diagnosis, I see no reason why the error may not be speedily dispelled when the catheter is once introduced.

The surgical treatment of chronic retention should consist, (1.) In withdrawing the offending urine; (2.) In relieving the existing cystitis, and (3.) In endeavoring to remove the obstacle to the spontaneous expulsion of the urine.

When retention is due to stricture, successful evacuating catheterism, followed by the enlargement of the urethra by dilation to or beyond its normal capacity, and by suitable irrigation of the bladder will be sufficient as a general rule, to cure the retention, the atony and the cystitis; but to prevent their recurrence, dilating catheterism will be required periodically, (not less than once a week,) for several years; otherwise the stricture will recontract and produce those first results.

In regard to chronic retention arising from spasmodic contraction of the neck of the bladder, or from a muscular valvule, the catheter should be used three or more times every twenty-four hours, to be followed by suitable urethro-vesical irrigation. If these means fail, it is recommended that internal incision, or in exceptional cases excision of the valvule be performed. With the aid of the valuable local anæsthetics now known to the profession these operations may be performed with comparitively little pain, but there are very few cases in my opinion that require this kind of operative procedure, and I would advise that it be the *dernier* resort.

If, when chronic retention is the result of supramontenal hypertrophy of the prostate, it be discovered early, and ordinary skill and judgment be exercised in the case, with cautious anticeptic catheterism, it will get along quite satisfactorily for a great many years, and there are cases of complete obstruction from lateral hypertrophy, if the patient is taught to use the catheter properly, and never allowed to make an effort to force urination, will progress quite satisfactorily also.

I have at this time three patients, aged respectively, 59, 62 and 69, who are in general good health and quite active, who have been using the catheter four to six times a day for the last three to five years. But these successes are due to early beginning and to the greatest care in the selection and use of the instrument, anti-septically and every otherwise. I do not allow my patients to use an instrument unless selected by myself.

The kind of catheter to be used in retention from enlarged prostate is a matter of very considerable importance. In the first place, I want to enter my solemn protest against the use of any and all kinds of metallic, and very rigid non-metalic catheters or soft catheters armed with slylets. The difficulties which arise from catheterism with metalic or rigid non-metalic instruments are encountered first, at or near the bulbo-membranous juncture of the urethra, from an inordinately deep sinus of the bulb, undue force causing the point of the instrument to perforate the mucous membrane and enter the spongy tissue, or to plow its way between the membranous urethra and rectum, and sometimes even enter the intestine, and secondly in the sinus of the prostate.

This latter impediment is formed by a urethro–vesical barrier causing a deep pouch in the prostatic sinus. In this case, the same undue force may give rise to a longitudinal rent on one side or the other of the floor of the prostatic sinus extending to, or into the barrier, or else the point of the instrument will penetrate, and sometimes transfix the barrier at its center. Now, such serious injuries cannot be inflicted with soft non-metalic instruments, though when their eyes are

improperly constructed they may cause considerable irritation and even erosion of the mucous membrane. Therefore one of the prime requisites of a good catheter is an eye as small as practicable with perfectly smooth, rounded edges. The size of the catheter is also worthy of consideration. Nearly all those who practice anto-catheterism have a predilection for small catheters, such as Nos. 4, 5 and 6, Enlish. This is a great mistake. The catheter should seldom be under No. 9, which, though being soft and pliable, retains a certain degree of firmness and can be much better managed. If it seems too large, dilate the urethra, indeed it is an excellent practice to occasionally put the patient's urethra through a short course of dilation to No. 13 or 14, if a No. 9 is to be used afterwards. The length, too, of the catheter is a matter of some importance, though in a majority of cases, nine or ten inches may do, but fourteen to eighteen inches is preferable. The ordinary soft rubber catheter is about fourteen inches, and this is I think the most convenient, especially when irrigations have to be made. The catheter before being used, should be rendered perfectly aseptic. "Catheter, is often, if not always, septic fever."

Never, therefore, attempt to use a catheter without first examining the instrument to see whether or not it is sound, and of the proper quality. If it is sound, etc., wash it well with carbolated water of 1 to 20, after which the instrument, smeared with carbolized cosmoline or oil, 1 to 10, is fit to be introduced.

Chronic retention of urine of a few months standing, is quite amenable to treatment, especially in well nourished patients, who are otherwise in fair physical condition, but in those who, for two or three years have been neglected, and whose general health is, in consequence much impaired, the prognosis is bad; for after this lapse of time the ureters and kidneys are irreparably damaged, and the most that can be done is to mitigate suffering.

In cases where there is every probability that the kidneys are not involved, the first step in the treatment is to draw off the urine, but this must be done with great care, very slowly and by degrees, especially if the distention is at all great, and is of several months standing. The best way to proceed in this initiatory treatment is, after introducing the catheter to permit about a pint of urine to flow, which in all probability will be fetid and purulent. Immediately throw into the bladder half pint of borax solution—boracic acid, grs., 5; essence gualtheria, minims, 5 to the ounce—then allow another pint of urine to flow. Then a half pint more of the solution is injected. There is now one pint less of urine in the bladder, and what remains is mixed with a disenfectant. After this, for every half pint of urine drawn off, half pint of the solution is injected, until the fluid that escapes from the catheter is perfectly clear. Once every four hours afterwards, half a pint of the clearer contents is removed, until the bladder is entirely empty, which may take two, three, or four days. The twice daily irrigation of the bladder with the borax solution should be made to relieve the cystitis. During the incipiency of the treatment when the urine is fetid and purulent, one grain of permanganate of potassium to each fluid ounce of warm water should be used as an injection for the bladder, it will prove a valuable adjunct if not a remedy, as will also a three to five per cent. solution of sulphate of quinine. In some instances, it may be desirable to make a stronger impression upon the mucous membrane of the bladder. Of this the practitioner must be the judge in each particular case.

There are other formulæ for these bladder washes, the particular kind can only be determined by the physician finding out which consorts best with the temper of the bladder.

The presentation of this subject has already consumed more time than was at first intended, but before closing it I wish to say to those for whom it is especially undertaken, to avoid all radical procedures in the treatment of retention of urine from hypertrophy of the prostate in old men. I will not attempt to give you the various radical measures resorted to for the relief of the trouble under consideration, for the fact is conspicuous that, the best surgical opinion is at variance as to the propriety of any radical measures in these cases, and no *rationale* underlies the operation. There is one operation that, perhaps "has a future," and might be undertaken by many country physicians. I allude to the operation of PROSTATOTOMY. This operation is about the only one recommended by Dr. Agnew, of Philadelphia, a gentleman for whom I have the highest regard as a surgeon. He says: "I know of only one measure by which the hypertrophy under consideration can be permanently modified and often arrested, and that is PROSTATOTOMY. All surgeons must have noticed that after the lateral or medium operation for stone in the bladder in aged persons with enlarged prostates the latter have undergone marked atrophy in the course of healing; and it is this operation which I believe has a future in surgery. The procedure is a simple one and with care does not seriously jeopardize life." The *modus operandi* of this operation does not differ from that of median lithotomy.

EXTRACTS FROM NOTES OF SIX OPERATIONS AS PERFORMED BY SIX EUROPEAN SURGEONS.

B. HATCHETT, M. D.

FORT SMITH.

During my recent visit to the great medical centers of Europe, I had the pleasure of witnessing many important surgical procedures, and my notes on the same are rather extensive, but I take this occasion to present only a few extracts from notes of six operations as performed by six of the masters of the old world.

Operation 1st. Gastrotomy, performed by Professor V. Czerny, of Heidelberg, Germany. Patient was an unmarried woman 34 years old. Three days before presenting herself at the hospital, she had swallowed an ordinary brass pin. On presenting herself she complained of pain of a lancinating, intermitting character in the region of the stomach, and requested that an operation be made for the purpose of removing the offending body. Professor Czerny agreed to make the operation more, as, I believe, to satisfy her whims than from any operative necessity he saw in the case. Patient was given a thorough bath, put to bed and kept on milk diet for 36 hours. Before being brought into the operating room she was again treated to a general scrubbing bath and dressed in an aseptic gown. When placed on the table she was anæsthetized with the A. C. E. mixture, administered with an Esmarch's inhaler. This inhaler consists of a frame work of steel wire, or wire mask, so shaped as to fit closely over the nose and mouth, and over this frame work is fastened one layer of ordinary woollen flannel. With a little loop at the upper part of this frame and an elastic band to extend around the head, the inhaler is kept in permanent position over the nose and mouth of the patient, while the anæsthetic is exhibited by means of a drop bottle which allows just enough of the mixture to fall on the flannel to keep it saturated. The proportions of the A. C. E. mixture are usually 500 parts chloroform, 300 parts ether and 200 parts alcohol. The antiseptic measures adopted in addition to those already mentioned, consisted in the thorough washing of the abdomen and breast of the patient first with soap, water and brush, next with a solution of idoform in ether, and finally with a bi-chloride of mercury solution, 1 part to 10,000. Thorough cleansing and disinfecting of the hands and arms of the operators and assistants, and the wearing of aseptic operating aprons. The contiguous parts of the patient were covered with towels rinsed from a bi-chloride solution and only the immediate site to be operated on was exposed. All instruments, ligatures, sutures, etc., were made thoroughly aseptic. Sponges were not used, but in their stead pledgets of cotton lint wrung out of bi-chloride solution and thrown away after being once used.

Everything being ready, an incision four inches in length was made extending from near the xyphoid appendix, parrallel with and about one inch distant from the costal cartilages on the left side. All bleeding vessels were immediately picked up by an assistant, and the operation proceeded without any interruption

until the parietal wall was entirely cut through, and the anterior aspect of the stomach exposed. All vessels were ligated with carbolized catgut, forceps removed and the walls of the incision held apart by means of large metal retractors. An incision three inches in length was made in the stomach corresponding to the direction of the cut in the parieties. Search was then made for the pin. This was indulged in by all present who could "pass muster" antiseptically, and continued for an hour or more, but no pin was found. The stomach was thoroughly washed with antiseptic fluids, all bleeding joints stopped, and the incisions closed, first in the stomach with the double continued suture of catgut, and in the abdomen with the interrupted suture of carbolized silk. Wound dressed antiseptically as follows: A plentiful supply of iodoform was dusted on, numerous layers of bichloride gauze came next, then cotton batting, oiled silk, bi-chloride gauze bandages, more cotton batting and lastly, a firm roller bandage of ordinary domestic stuff, all in great abundance, and extending from the armpits down to the loins. Patient put to bed and nourished by means of rectal enemata for some days. She went on to a complete recovery in an ordinary length of time, with but little rise of temperature, or any other constitutional disturbance. Do not know if she ever complained of the pin any more.

The foregoing is in brief about the method of antiseptic practice as seen in all Germany.

Operation 2nd. Amputation of thigh at juncture of middle with lower third, made by Professor T. Billroth, of Vienna. Patient, a robust, healthy man of some 30 years of age. Operation made necessary from a comminuted condition of lower leg, caused by a falling building stone. The usual anæsthetic, the A. C. E. mixture being administered, the Esmarch's bandage applied, and all antiseptic preparations having been made, the operation proceeded by the method of forming a circular skin flap. Skin cut through and drawn up a couple of inches, then the muscular tissue and periostium cut through down onto the bone. All was then retracted and the bone sawn high up as possible. Vessels ligated and sutures inserted. The method of application of the sutures as adopted in this case, and practiced very largely in Europe, is the important point in this note. The object is that the wound be closed in such a way that blood and serum cannot collect in it, but will pass at once to the surface, where they can be immediately and readily absorbed by the antiseptic compressive dressing. The sunken or buried catgut sutures are used, that is the deeper parts of the surfaces of the wound are sewed together by continuous or interrupted sutures of catgut, before the ordinary superficial sutures are inserted, and the sutures left to be absorbed like the ligatures applied to vessels. First, the periostium which has been retracted is brought forward and united over the sawn surface of the bone, then the deeper, and then the more superficial layers of muscular tissue are sewed together with long needles and thick catgut, and finally the cut edges of the skin are brought into exact apposition by a double uninterrupted suture, the lowest angle of the wound being left a little open, or a button-hole opening is made in the skin. In this method, no drainage tube is inserted. After the sutures had been thus inserted in this case, an antiseptic permanent dressing was very firmly applied, and not until then was the constricting band removed. The stump was elevated and held in that position for some hours, so as to lessen the amount of hemorrhage. At the end of

two weeks, the dressing was removed, and all the blood which the patient had lost, was found in the form of a small odorless crust on the inner surface of the dressing. Union was complete and no suppuration.

Operation 3rd. For the radical cure of inguinal hernia, performed by Professor E. Albert, of Vienna. Patient was a man 50 years old, and had been a sufferer for 15 years. In all the preparations and manipulations everything was done with a strict adherence to the most rigid antisepsis, and the operation made as follows: An incision was made directly over the canal extending from a point over the internal abdominal ring down to a point about midway the scrotum. All bleeding points were caught with forceps, and cuts succeeding cuts were made through fasciæ and muscle until the sac was reached and exposed, the canal being cut through its entire length. Then with the fingers and the handle of the scalpel the sac was dissected up and entirely freed from the spermatic cord and surrounding tissues. Raising the sac up it was incised about its middle, a finger introduced and carried well up into the internal ring, while an assistant applied a very strong ligature as far up in the neck of the sac as could be reached. The entire sac was cut away and the wound packed with iodoform gauze, a few approximation stitches were made deeply into the walls of the wound, a large permanent antiseptic dressing applied, and the wound left to heal by a process of granulation. I saw nothing of the progress of this case, but the Professor claimed to have had very fine results from many similar operations.

Operation 4th. Cæsarian section, made by Professor K. Braun, of Vienna. Patient was a primipera aged 24 years. Period of gestation complete, and operation demanded on account of the existence of a very closely contracted pelvis. All proceedures were strictly antiseptic, combining those of an ordinary case of labor with those of a major operation. Anæsthetic A. C. E. mixture. The primary incision was made in the median line extending from a point two inches below the umbilicus down to within two inches of the pubes. Succeeding cuts were leisurely made through the abdominal walls, down upon the gravid uterus, while all bleeding points were secured, the uterus held in place, and intestines held away by assistants. When the uterus was reached, it was slightly elevated and a short cut made near the fundus, through which a finger was introduced and served as a guide to the scalpel, while the incision was rapidly extended to the length of about five inches. The feet of the child were seized, and it was immediately extracted from the womb with but little difficulty, in a perfectly viable condition. At this point the hemorrhage was terrific, and the life of the patient was in great peril, when an elastic soft rubber band was thrown around the womb near its lowest part and the flow controlled. A delay of a few moments was made, before attempting to remove the placenta, during which time, the womb began to contract, and the removal was easily made. When the organ was contracted down to the ordinary size, the contracting band was removed, and the incision closed by means of two rows of interrupted catgut sutures; the one extending through the walls of the uterus and embracing as much as an inch of tissue on either side of the wound. The other with superficial insertions embracing only the peritonium and superficial muscular tissues, and placed at short intervals. By this means, the wound was evenly and tightly closed. The wound in the parietus was not at once closed, but was quite closely packed with bi chloride gauze,

firmly bandaged and left in that way for some hours. This was done for the purpose of allowing the gauze to absorb all blood and serum that might escape from the sutured womb. Finally, the gauze was removed, the abdominal incision closed with a double row of sutures similar to those in the uterus, only the deep ones were of silver wire, a very large permanent antiseptic dressing applied and the patient was doing well when I last saw her. She had but little constitutional disturbance more than would be expected in an ordinary accouchment. The lochia passed through the os, and was discharged in the natural way. The child lived.

Operation 5th. By Dr. A. Breisky, of Vienna. This was a case of *post partem* hemorrhage in which Dr. Breisky employed the method of treatment called after his name. The patient was a large, corpulent multipera. The hemorrhage was extreme, and would not yield to the ordinary methods of treatment. His method consisted in the grasping of the cervix of the womb in the vagina with one hand, and the fundus externally with the other, while the two parts were firmly pressed together, thus producing a doubling of the organ upon itself, and hence creating a mechanical hindrance to the outflow of blood. This pressure required an output of great muscular effort on the part of the operator, as the womb had to be held in this position until a state of firm contraction was established. The operation was successful and the life of the patient saved. Of course every antiseptic precaution was employed, as is the custom in all cases of lying-in women.

Operation 6th. Supra-pubia Lithotomy, made by Prof. E. VonBergmann, of Berlin. Patient a man 30 years old; chloroform, the anæsthetic. After preparing the patient antiseptically, washing out the bladder with a boracic acid solution, and leaving the organ well filled in order to lift the anterior reduplication of the peritonium well above the level of the pelvis. The operation was begun by making an incision in the linea alba, beginning about four inches above the symphysis, and extending down to the upper margin of the pubic bones. All the tissues were successively divided down to the anterior wall of the bladder, and hemorrhage arrested. Two stout silk ligatures were introduced on either side of the median line of the bladder to serve as retractors and to steady the organ. It was then incised between the sutures, the cut extending for about two and one-half iches parallel with the linea alba. The peritoneal cavity was not opened. The stone was now exposed and proved to be so large that it was extracted with considerable difficulty by means of a stout pair of dressing forceps. All the parts were thoroughly washed with carbolic water, and every particle of hemorrhage controlled. The wound in the bladder was then immediately closed with a neatly applied double continued suture of cat gut. The wound in the parietus was packed with bi-chloride gauze, and a pretty firmly fitting antiseptic dressing over the entire abdomen. A soft rubber catheter was introduced through the urethra into the bladder, and made to remain for several days in order to carry away any accumulation of urine and prevent stretching of the cystic walls. The temporary dressing and bi-chloride gauze packing were removed at the end of the third day, when it was found that no urine had escaped from the sutured bladder. The entire abdominal wound was then united with a double row of interrupted sutures, and a large permanent dressing applied. The patient was doing exceedingly well three weeks from the operation, which was the last I heard from him.

SURGICAL CASES.

J. A. DIBRELL, JR., M. D.

LITTLE ROCK.

Case 1.--Gun-shot wound of the femoral artery.

F. H., colored, aged 22 years, was accidentally shot on the 3rd of October, 1884. He was a butcher by trade. One of his fellow-workmen was engaged in killing sheep, using for this purpose a 38-calibre Winchester rifle. At one discharge of the gun, the ball passed through the head of a sheep, through a board fence one inch in thickness, and then into the upper third of the posterior surface of the man's right thigh, ranged downward and forward to the anterior surface, and almost perforated the skin 1½ inches below the apex of Scarpa's triangle. About one hour and a half after the accident in company with my brother, Dr. E. R. Dibrell, I saw the case in consultation with Dr. L. R. Stark, whose patient he was.

I found the man suffering from the shock, the pulse small and feeble, and the skin bathed in a cold perspiration. But little blood had flowed from the wound, but on the anterior surface, along the course of the femoral vessels, and intermuscular septa, extending from Pourpart's ligament to below the middle third of the thigh, and also laterally, was an extensive extravasation. The limb appeared twice the size of its fellow.

Without loss of time the patient was etherized, and an incision four inches in length made along the course of the femoral artery. The large clots were turned out, and the artery, which was completely divided, ligated at both ends. The wound was washed out with a carbolic acid solution, the only antiseptic at hand, and closed with interrupted sutures of silver wire.

I learned from Dr. Stark that reaction speedily came about, and that the collateral circulation was established. The reaction appeared to be violent, and the patient died twenty-four hours later, of what was in his judgment, an acute septic fever.

Case 2.--Gun-shot wound of the femoral artery.

W. K., white, male, aged 12 years, was accidentally shot at short range by one of his play-mates, late in the afternoon of October 22nd, 1888. A conical ball from a 22-calibre rifle entered the middle third of the right thigh over the course of the femoral vessels. After being shot the boy ran down the street, probably a hundred feet and fell to the ground, fainting from the loss of blood. A gentleman passing had the good sense to apply a handkerchief around the boy's thigh, though bleeding had already ceased, from syncope. I saw the patient in company with Dr. E. R. Dibrell, a few minutes later. He appeared almost exsanguinated. He was pulseless, cold, and looked like a corpse. The family of the wounded boy were patrons of Dr. C. Watkins, and I requested his attendance. In the meantime I made every preparation for tying the artery, and endeavored

to bring about reaction. Under the use of hypodermic injections of whiskey and ether, the pulse became again perceptible at the wrist.

It was already night when Dr. Watkins arrived, and the operation had to be made by gas light.

Dr. E. R. Dibrell administered ether, and with the assistance of Dr. Watkins and an heroic lady, the usual operation for ligation of the femoral artery in its middle third was made. The vessel, it will be remembered, here lies deeply in Hunter's canal. The artery was completely divided, and the femoral vein, while in this situation lies beneath the artery, was perforated. The ball passed backward into the muscular structure in the posterior part of the thigh, and was not found. Both ends of the artery were tied, and ligatures applied to the vein above and below the point of perforation. The wound was thoroughly washed out with a mercuric solution, a rubber drainage tube introduced and the wound closed, antiseptic silk being used for both ligatures and sutures. The limb was bandaged with flannel and bottles of hot water placed around it.

During the night a "tin warming pan" filled with boiling water, was by one of the attendants carelessly placed against the patient's heel, causing a severe burn. This injury was not discovered for some days, no pain in the part having been complained of. This was due to the fact that there was anæsthesia of the greater part of the foot and leg. Above the knee sensation was normal. The small conical ball already the cause of so much mischief, after cutting its way through both artery and vein had passed backward and injured the sciatic nerve.

I visited the case for several days with Dr. Watkins, and then turned the case over to him for subsequent treatment. The patient had a somewhat slow and tedious recovery. There was after the first week some suppuration, attended with fever which ranged from 102.5, the highest during the first few days, down. The normal figure was not reached for a fortnight or more.

The burn on the heel proved to be a most troublesome complication. It only recently cicatrized, causing the patient to limp for a long while. Sensation in the limb appeared to be fully restored and the boy is in good health.

Case 3.--Laparotomy for intestinal obstruction caused by Meckel's diverticulum.

I was requested by Drs. McAlmont and Prather on the morning of the 24th of August, 1888, to make a laparatomy in a case of intestinal obstruction.

Dr. McAlmont gave me the following history of the case: L. P., aged 23 years, white, a native of Alabama, came to this State in the early spring of 1888 and engaged as a farm hand. In August he was employed as a dairyman. On the 18th of August, while milking a cow he was kicked by the animal on the right side of the abdomen, which caused him severe pain at the time. On the 21st of August he walked to a drug-store in the central portion of the city and back to his home, the distance of two miles. At the drug-store he called for something to act upon his bowels, and was given some powders of calomel. On the 22nd, Dr. McAlmont saw him for the first time. He was then suffering with severe colicy pains, and frequent vomiting. He administered morphine hypodermically and prescribed powders of morphia and calomel, to be taken at intervals of three hours. Saw the patient in the afternoon and again gave morphia hypodermically. He ordered enemas. Temperature 101 degrees August 23rd. The patient had stercoraceous vomiting during the night, and the Doctor now learned that sterco-

raceous matter had been vomited twenty-four hours previously. There had been no alvine evacuation since the 19th. The abdomen is much swollen and tender, pulse frequent and compressible. Temperature 102.5. Called Dr. Prather in consultation. Large enemas of cotton seed oil were administered without effect. Some of the oil was, however, vomited, having passed entirely through the alimentary canal. This fact created the hope that the obstruction might be overcome, and it was decided to defer the question of operative interference until the next day.

I saw the case on the morning of the 24th in consultation with Drs. McAlmont, Miller, Prather and E. R. Dibrell. I came prepared to operate. The condition of the patient rendered the proceedure anything but promising. Stercoraceous vomiting had occurred at short intervals during the preceding night. His extremities were cold, pulse feeble, 130 per minute, abdomen distended and sensitive. He is anxious that something should be done for his relief. I learned that his friends through a mistaken notion of kindness, had trotted him around the yard for several hours during the previous night, with a view of relieving his bowels, much in the same way as is sometimes practiced with horses suffering from colic.

The operation was made under antiseptic precautions, and begun by an incision extending from a point two inches below the umbilicus to the pubis. The abdomen opened, large coils of small intestines at once extruded. They were enormously distended with fluid and gas, and were livid with congestion. Peritonitis already well established, was very noticeable in both visceral and parietal layers of the peritoneum. No progress could be made until a large mass of the bowels had been withdrawn, being carefully protected by cloths wrung out of water, at a temperature of 105 degrees.

Toward the right iliac fossa a small portion of the ileum was found collapsed, and of a more healthy hue. Extending from the umbilicus downward and backward, between the coils of intestines, was a tense membranous cord not larger than an ordinary lead pencil, over which a portion of the small bowel was suspended. Between this cord and the anterior abdominal wall, pushed toward the left side, beyond the median line, was the cæcum. This cord when traction was removed became larger and resembled in appearance the small intestine. This anomalous pouch, for such it was, the cause of the obstruction was a relic of fœtal life, being a remnant of the vitaline duct known as Meckel's diverticulum, but I had never seen it before, either in autopsies or the dissecting room. It was nine inches in length, patulous, except at its attachment to the umbilicus, joining the ileum two and one half feet above the elio-cæcal valve. Owing to the entangled state of affairs, the extreme distention, and both ends being hidden from view, the pouch was not for some time recognized. It was only by following the bowel upward and downward and then the pouch upward, under great difficulties, that it was identified.

The obstruction was only perfectly relieved when the diverticulum was dissected from its attachment to the umbilicus. In order to accomplish this, the incision in the abdomen had to be enlarged an inch or more. As the detached extremity was closed and there was no bleeding it was dropped back into the abdomen.

The mass of intestines was so large as to render their return, in a state of distention impossible. A single puncture was made in the bowel with a bistoury and

fluid contents, to the amount of two quarts or more, were drawn off. The punctured wound was closed with three Lambert sutures. The peritoneum was closed with a continuous suture of fine silk, and the remainder of the wound with interrupted sutures of the same material; a drainage tube being placed in the inferior angle.

About one and a half hours were consumed in the operation, from which the patient did not appear to have suffered much shock; his general condition was about the same as before the operation. As he came from under the influence of the anæsthetic, (ether being used), while yet on the table, he vomited a large quantity of stercoraceous matter. This vomiting continued at intervals up to the time of his death, which occurred twelve hours later.

Autopsy, fourteen hours after death. The intestines presented the same color, the lividity probably somewhat greater. There was slight adhesions between several of the coils. The cavity was clean, and the puncture made in the bowel was gas tight.

This was a case in which had it been possible to have recognized its true character earlier, the operation would in all probability have been successful, at any rate there is much to regret that it was not done sooner. As it was, though a perfectly justifiable procedure, was an almost hopeless endeavor. In the treatment of the diverticulum it would have been much better surgery had it been cut off close to the bowel and closed with sutures. Had the patient recovered there would have been danger of subsequent obstruction from adhesions between the detached end and some portion of the bowels or omentum.

Case 4.--Laparatomy for Suppurative Ovarian Cyst.

On the 17th of January, 1889, I was called to see E. P., colored, aged 26, a resident of Argenta, Ark. I found a woman in an extreme state of emaciation, having a large abdominal tumor and obtained this history of the case.

At the commencement of her illness two years ago, she was a strong, healthy woman, weighing 253 pounds. She was taken suddenly sick, with what was called a congestive chill, but remembers to have had severe pain in her pelvis for several days prior to taking her bed. She was very ill for several weeks, much of the time delirious. Has not been well since, most of the time confined to the house or bed. Did not notice the tumor until she began to lose flesh, then it became more and more apparent. Can not tell how long it has been of its present size, probably about a year. She has had one child, now twelve years of age and two miscarriages, the last one occurred ten years ago, at the fourth month. Her menses have always been irregular as to time, and varied as to the character of the flow. Sometimes it was a pale, watery fluid, at others profuse hemorrhages. Four months ago she had "slight show," none since. Bowels generally constipated, never acted unless she took purgatives or enemas. In the early part of her sickness she suffered much from palpitation of the heart. She is utterly worn out with sickness and suffering and feels that she must soon die. Is willing to submit to any operation that offers any hope of relief, however small that may be. The tumor was large, prominent, smooth, fluctuating, elastic, and immovable, more prominent on the left side than on the right. Umbilicus prominent. Fluctuation over every part from the pubis to within two inches of the ensiform cartilage. The superficial abdominal veins enlarged. The tumor extended down in-

to the posterior part of the pelvis as a symmetrical, fluctuating mass. The cervix was crowded against the ramus of the left pubic bone, just within reach of the finger. The woman was as large as is ordinarily the case in the last months of pregnancy. There were cicatrices in each groin, but I could find no other evidence of syphilis.

On the 27th of January, ten days after my first visit, the patient was ready for operation, which was made under antiseptic precautions.

I am greatly indebted to the following medical gentlemen for assistance on the occasion: Drs. Stark, Gibson, Prather, Meek, E. R. Dibrell, and Messrs. Chas. E. Hurley and M. S. Dibrell, medical students. The operation was begun by the usual incision in the median line, extending from one inch below the umbilicus to the pubis. The abdomen opened, the tumor presented a smooth, shining, opaline appearance, along which ran numerous large veins. Some adhesion between the tumor and the anterior abdominal wall were easily broken down. Spencer Wells' trocar was then thrust into the tumor at the superior angle of the wound. Unexpected resistance was met in introducing this instrument, through which now flowed a rather thin, greenish-white, odorless pus. The amount collected was about five gallons. An ounce or more escaped through an aperture in the instrument and entered the abdomen. The tumor now collapsed, was partly withdrawn and examined. It was attached to the pelvis and lower part of the posterior abdominal wall, and appeared to have incorporated within its walls everything in the pelvis except the bladder and rectum. Enlarging the opening in the cyst it was found that the trocar—which is in fact not a trocar, but a large sharp-pointed canula, one-half inch in diameter—had cut its way through the upper border of the fundus uteri, opening the canal, through which pus and blood passed into the vagina. It was this organ which had offered resistance to the trocar. The uterus formed part of the anterior wall of the cyst, and after its evacuation the outlines of the organ could be clearly made out. It was not enlarged though probably somewhat elongated, and perfectly smooth, that is there were no nodulations or other evidence of fibrocystic degeneration. To remove the thick walled cyst with its extensive base and included organs was out of the question.

The abdomen was thoroughly washed out with boiled hot water and a mercuric solution, 1 to 5,000. The margins of the opening in the cyst was stitched to the peritoneum with a continuous suture of silk, and the wound closed with interrupted suture of the same material, three of them being placed sufficiently deep to include a portion of the cyst. A drainage tube of glass was placed in the inferior angle of the wound.

February 2nd—eleven days since the operation. There has been absolutely no fever. The patient feels well with the exception of griping pain in the bowels and frequent desire to micturate. These symptoms trouble her very much, but no worse than she often experienced before the operation. She is as "hungry as a horse," this is the first time she has had any appetite for months. There has been a free discharge of pus and bloody serum from the tube. Union was primary throughout, except at the point occupied by the tube. There has been no suppuration. The patient's general condition already shows a marked improvement. The pinched features and anxious expression of the countenance are gone and she is sustained by a cheerful hope of ultimate recovery.

February 3rd. The patient had the horrors during the night. In her dreams

she seized the dressings and displaced the drainage tube, which caused her pain. Her temperature this morning is 99 1–5, the highest point reached. Introduced a rubber tube in place of the glass one.

The further progress of the case was uneventful until March 19th, when I was again called to see her. I had not seen the case since the 7th of February. Sometime before, the drainage tube came out, patient supposed she had worn it long enough and did not replace it. The consequence was, the wound healed immediately, there was a re-accumulation of pus attended with some fever. During the night it had opened spontaneously, with relief from all unpleasant symptoms. Another tube was introduced.

May 1st. Saw this patient to-day. She has gained wonderfully in health and strength. Her weight is 142½ pounds. She is happy in being able to work her garden and attend to her household duties. There is a scant, watery discharge through the tube, occasionally a few drops of pus. The cavity which is much contracted is daily washed out with a weak solution of tincture iodine.

I have called this case one of suppurative ovarian cyst, and while I believe the diagnosis correct, I am not positive as to the exact pathology.

Without going into a comparative study of the various abdominal tumors, it is my belief that the disease began as an acute peri-uterine cellulitis, with an abundant exudate of plastic lymph, which surrounded the uterus, embedding the ovaries and broad ligaments, and finally became organized. Ovaritis and cystic degeneration followed, the new tissue forming a part of the cyst wall, with subsequent suppuration of its contents.

Two cases which I saw while in consultation with Dr. Prather, of Little Rock, are illustrative. A lady had a prolonged attack of pelvic cellulitis, with impovements and exacerbations. The exudate of lymph was abundant, producing so much pressure upon the rectum at one time as to obstruct the bowel. A small bougie could not be passed; there was no alvine evacuation for thirteen days, and colotomy was seriously considered. This lady died some weeks later of peritonitis. At the post mortem examination the ovaries and broad ligaments were not to be seen; they were embedded in organized lymph; tearing this away, one ovary was found, slightly enlarged, the other in a state of cystic degeneration, containing an ounce of fluid. The other case was also one of pelvic cellulitis, in which the exudate was extensive. I saw this patient a month or so later, there was then a fluctuating tumor in the back part of the pelvis, from which was drawn off with an aspirator eight ounces of a clear, straw colored fluid. In both these cases the co-existence of pelvic cellulitis and cystic degeneration of the ovaries was clearly demonstrated.

Case 5.—Laparotony for Suppurative Typhlitis.

I saw at Kearney Station, Arkansas, December 11, 1888, Mrs. M., white, aged about forty years, in consultation with Dr. J. E. Wylie, of Red Bluff. As near as I can recall it, he gave me the following history of the case:

He saw the patient for the first time ten days before, who then complained of a severe pain extending from the right lumbar to the right iliac region. She had some fever. Found on examination in the right iliac fossa a small, tender tumor, about the size of a hen's egg. This had steadily increased, and became more

painful, until it reached its present size. The fever became higher, with frequent rigors followed by sweating and vomiting.

At the time of my visit I found a tumor filling up the greater part of the right iliac fossa, extending upward to the umbilicus and 1½ inches to the left of the median line. It was prominent, very sensitive, slightly fluctuating, apparently adherent to the anterior abdominal wall, but the more dependent portion was movable. There was no discoloration of the skin; temperature, 102.5 degrees; pulse, 125 per minute. An immediate operation was recommended and consented to. Dr. Wylie administered chloroform and the operation made under antiseptic precautions.

An aspirator needle was first introduced and a small quantity of pus drawn off, establishing the diagnosis.

A verticle incision three inches in length was made along the outer margin of the right rectus muscle, the most prominent part of the tumor, the deeper structure being carefully divided upon the director, and the cellular tissue œdematous were very dark colored and boggy. The peritoneum divided, a quantity of pus escaped, but not nearly so much as was expected, considering the size of the tumor. I did not have with me, nor could I obtain at the station a syringe with which to wash out the abscess. It was done as well as possible with a sponge, using a mercuric solution.

A large rubber drainage tube was placed in the inferior angle of the wound and the remainder closed with cat gut sutures.

Dr. Wylie conducted the after treatment, and from him I learned that the patient made a rapid recovery and was soon restored to health.

Cases 6 and 7.—Lithotomy.

Judging from my own experience, vesical calculus is a comparatively rare affection in this state. During a residence of nearly twenty-five years in Little Rock I know of but three cases which developed in that city, all of which were adults, two colored and one white.

In some sections of the state the geological features are such as usually favor the development of stone, but if such cases occur we do not often hear of them.

The following cases in young children are not especially interesting, except for the above facts and an accident which happened in an operation upon one of them:

Willie M., white, aged three years, was brought to me from Saline County, having pronounced symptoms of stone, which had continued for more than a year.

The child's condition was pitiable. Constant vesical tenesmus and a prolapsed rectum was a source of great suffering to the child and of grief to its parents. On the 15th day of April, 1885, I made, or attempted to make, the lateral operation.

I had not suitable instruments for a child so young, nor could I obtain them without having them made to order, which necessitated delay.

Among the instruments furnished me was an improvised arrangement called a staff. It resembled a tunneled sound, and had probably been one. The very short curved portion of the instrument was the chief objection among many. I used the instrument much against my judgment, yielding to the importunities of the child's parents that there should be no further delay.

The incision for the lateral operation was made; the urethra divided along the staff to its extremity, when being short of the bladder it stepped from the urethra into the ischio rectal fossa. I could not again introduce the sound or any other instrument, nor were my assistants, after repeated trials, more successful. The operation was, therefore, temporarily abandoned.

No trouble followed the abortive attempt, and the wound healed kindly.

On the 2d of May, seventeen days later, I successfully removed a stone weighing 165 grains. The patient made a good recovery.

S. M., colored, aged 2½ years, was brought to me from Pope County, and I cut him for stone July 11, 1886. The stone weighed 171 grains. He also made a good recovery.

SOME OF THE FORMS OF PERIOSTITIS, OSTITIS AND OSTEOMYELITIS.

EDWIN BENTLEY, M. D.

LITTLE ROCK.

Few diseases within the range of pathology possessing characters purely surgical, are more often treated by the physician, or left to show the devastating effects of expectancy, until unable to bear out longer, succumb to the influence of nature's own specific for pains. This affection often the result of some unexpected traumatism, arising from injury or exposure and frequently both, known as periostitis, embraces a line of bruises extending from the covering of the smaller bones of the phalanges to the more massive frame work of the body. The examples so common in the prehensive organs where they pass under the common names of felons, whitlow, etc. When in the larger bones, as fever sores, sinuses, old ulcers and the like. The serious consequences resulting from the unappreciated inflammatory process being ostitis, osteomyelitis, caries and necrosis. The inevitable sequence of the strictures produced by the swelling over such unyielding structures as the fascia tendon and bone, causing strangulation of the vessels and stasis which robs the dense tissues of nutriment. Paliative remedies are the universal resort as evaporating lotions emolients and sometimes counter-irritants, until the intense pain compels resort to anodynes in some form, or nature finds her own relief in spaestus, mortification or more or less death of the part. It is true the intense suffering is largely due to the peculiar situation of the suppurative process going on beneath the dense and unyielding periostent membranes. How are such pathological lisions overcome? Of course, remove the cause. The same principle is involved as in those surgical lesions where all agree, in depressed bones, on the contents of the cranium or spinal canal, a coagula of blood or a foreign body. The knife, above all other agencies, is the source of not only immediate relief, but the preventative of those destructive processes which inevitably go on without its intervention. In the use of the knife, reference is not intended to be made to simple disrupt tegumentary or muscular incisions or gashes which are more or less prone to gaping and hemorrhage, although the latter might be of use in a depletive way, to the high inflammatory action, yet this advantage might be largely counter-balanced by the exposure of the open wound to greater septic influences. The object of the incisions as proposed and practiced by many is two-fold. First, to relieve the periostium and bone from the collection of pus formed between them leading to caries, necrosis and slough. Second, to overcome the tension on the soft parts arisng from the swellings, causing the unyielding fibrous structures to act as ligatures, finally culminating in the destructive ways to which allusion has been made. The incisions advised are subcutaneous; hence in a great degree aseptic, but serving all the important purposes without involving access to deleterious ones. The simple form of periostitis, as it appears in a felon, is followed from

neglect, by the loss of many fingers, unseemly deformities and not unfrequently the entire hand may require removal. When periosteal inflammation develops over the larger bones and joints, the entire limb may demand amputation. It is not my purpose to engage your attention with the detailed treatment of whitlow, for which every one has his own specific. But rather in support of the position taken to narrate briefly a case or two.

Case I. L. J., a boy aged twelve years, of fair complexion, parents living; industrious country people of good habits. Patient had never suffered from serious or protracted disease. While engaged in some athletic sports or amusements he over exercised the right arm. It felt lame and sore in the evening. While in perspiration, he exposed himself imprudently. The following day, the arm was painful and swollen. Various applications were locally made for relief in a popular way, with more or less general treatment internally. The arm became useless and after a time open sinuses were formed at the elbow and shoulder joints. The boy having become anæmic and wasted to a shadow with a prostrating diarrhœa, night sweats, hectic and the kindred phenomena, that usually appear in this connection. He was brought by his father to Little Rock and placed under my care at the county hospital, where he remained under treatment for two weeks. The first examination of the limb revealed caries of the articular surfaces of the elbow and shoulder joints, into which the finger could be readily inserted, after having enlarged the cutaneous orrifices of the sinuses. Two appointments were made with an interval of one week, for the amputation of the limb at the shoulder joint. On both occasions, by the advice of Prof. A. L. Breysacher, who had been invited to assist in the operation, it was decided that operative measures in the circumstances were not justifiable and should be deferred. His uncle then decided to take the boy home that he might die with his parents. His ability to endure the journey being so doubtful the uncle was finally induced to take him to the Little Rock Infirmary, where he might enjoy more than home comforts together with the skill and experience of cultivated nurses, which, together wlth their diligence and watchful care, became a desideratum of great moment. With these advantages he so far rallied, that after a few days the intensely offensive suppurating limb had become wholesome, and the removal of the limb at the shoulder joint was decided upon. Drs. Breysacher and J. A. Dibrell assisted in the operation, which was made as nearly aseptic as possible. The wound healed nearly by the first intention. The ligation of the main artery came away on the twentieth day. The convalesence progressed from day to day, without any untoward symptoms. The anesthetice was nicely administered by Dr. E. R. Dibrell, to whose care much is due, as the patient was in a condition extremely critical, weak and attenuated.

Case II. G. T., passed middle life with a slender, delicate physique, married, no children, occupation formerly a country blacksmith, later an agriculturalist. Perhaps never a very intemperate man, but always a persistent drinker. Two years ago, the left leg, from slight injury, followed by exposure became swollen and intensely painful, with the usual symptoms of periostitis. He was for a long time treated by the expectant methods, which, in his case, required much endurance, and at times, great suffering. In November, 1888, he applied to the college clinique for treatment. He came from a neighboring county, expecting his

limb to be cut off. His condition not being favorable to so severe an operation, the treatment began with free incisions down to the bone, opening many suppurating cavities, and exposing a carious condition of bone. He was admitted to the Little Rock Infirmary, and treated for several months, during which time the limb was dressed daily, and the cavities injected with tincture of iodine. The wounds repeatedly healed, and as often broke out in some new place from the carious bone. The swelling of the foot and ankle disappeared. The upper third of the leg had atrophied previous to his application for treatment. He left the hospital after three months continuous and persistent attendance much improved and convalescent, but will be liable to repeated abscesses arising from the diseased state of the bone. He was never in condition to justify amputation, and will finally succumb to the forces of age, disease of bone and consequent debility combined. This disease of bone, so persistent and intractable, resulted, beyond doubt, from a traumatic periostitis, which a few subcutaneous incisions timely made would have prevented, the practical deductions in this case would seem to be a correct diagnosis in the beginning, the serious tendency of the pathology involved and the ready application of judicious surgical treatment.

THREE CASES OF GUNSHOT WOUNDS.

J. T. CLEGG, M. D.

SILOAM SPRINGS.

It is not at all probable that gunshot wounds will ever cease to be of interest to surgeons in either civil or military practice.

John Rose, white man, was shot while running, by a Cherokee Indian with a 55-100 calibre needle gun carrying a long, conical ball, which struck him in the gluteal region, or rather between the gluteal muscles and the coccyx, ranging downwards and outwards making its exit on the outer aspect of the thigh, a little below the middle third, about 15 inches from the point of entrance, passing in close proximity to the ischium, if not striking that bone, striking the femur just below the trochanters breaking the shaft of that bone into splinters for a distance of about four inches. It was not until some four hours after the injury that I saw him, the accident having occurred late in the afternoon. He had lost considerable blood and the shock was very pronounced. His condition and surroundings were the most unpromising imaginable. He was in a dirty log cabin in perhaps the poorest part of the Cherokee Nation. He had no money, no home comforts whatever, and but few friends. His Cherokee neighbors regarded him as "*skosity*," (mean), which, perhaps, was why they shot him. However, I put his leg in as good shape as possible, confining it in a John T. Hodgen's splint, protecting the wound of entrance by a piece of Westhorpe's marine lint, and keeping applied to the wound of exit compressers dipped in cold carbolized water, administering ¼ grain of morphia hypodermatically. I did not see him on the following day, Saturday, but he took of his own accord a dose of epsom salts, which produced two or three copious discharges from the bowels. The third day, Sunday, I found him with a pulse 120; temperature, 101½; respiration, 22; much nausea; bowels inclined to loosness; abdomen, tympanitic; tongue, broad and furred. Prescribed opium pills with fractional doses of calomel, ordered turpentine stupes to his abdomen. Wounds were apparently doing well, but the odor of the carbolic acid being offensive to him I substituted 1-1000 solution of bichloride of mercury. The next day diarrhœa and nausea were less; abdomen still tympanitic. Continued the opium without the calomel, also the turpentine stupes. These symptoms continued more or less ten days, but were kept under control by opium occasionally conjoined with bismuth subnitrate. At the end of about two weeks his mouth became sore and there was some salivation produced I am of the opinion, by the local use of the bichloride solution to the wound. The stomatitis yielded rapidly when the solution was discontinued and carbolic acid again resorted to, a simple mouth wash of chlorate of potash and hydrastin being prescribed. The wound did remarkably well all the time. There was hardly a drop of pus about it during the first four weeks. After the first ten days his temperature never rose above a 100, rarely over 98½. At the end of the fourth week the wound of entrance had closed completely, but the wound of exit

was discharging pus, but as the discharge appeared complete I did not interfere. However, during the seventh week I found a tendency of the wound to close, and of the pus to bag. I then made a drainage tube by nicking one-third of a small piece of rubber tubing about six inches long full of small holes, which after being scalded in hot carbolized water I inserted to the bottom of the wound leaving the external three inches whole with its end hanging lower than the bottom of the wound so that it would act on the principle of a syphon, which it did admirably. This tube was removed and disinfected daily. There never at any time was excessive suppuration. At the end of the eighth week union of bone appeared pretty firm, at which time I took down the Hogden apparatus on account of some sloughing of the skin over the flexor tendons behind the knee also over the tendon achilles. I am aware such sloughings ought not to occur in the use of Hogden's apparatus where proper care is exercised, but the patient was eight miles from my office with no competent nurse to look after him and the sloughs were caused by particles of trash which had gotten under the bandage next to the skin. From this time forward there was no more trouble of consequence, and when last I saw him, January 6th, 1888, four months from date of injury, he was able to walk about his premises on two forked sticks used as crutches. The wound was still discharging a small quantity of pus and emitting pieces of bone occasionally. The limb is straight but is about two inches shorter than the other. There is a partial anchylosis of the knee joint which I think will be overcome. Motion in the hip joint unimpaired.

In addition to the points of interest common to all cases of this kind, I would call attention to the dangers of bi-chloride of mercury solution so continuously applied to the external surface of the body as I did in this case. Truly in this case the result was not serious and yielded readily upon the removal of the cause. I believe however, had I at that time a better understanding of the application of the principles of antiseptics as applied to the treatment of gun-shot wounds, and could have had my patient cared for in a better manner, there would have been no constitutional effect of the antiseptic and suppuration would have been prevented entirely.

Two other factors in the management of this I would consider. First is, the use of the syphon in wounds or pus cavities where it is not expedient to make counter openings. The syphon tube should always after being made aseptic hang low enough outside the cavity to completely drain it by the gravitation suction, care being taken that the tube is never left obstructed. The other, is the most perfect adaptability of the Hogden splint to the treatment of fractures of this kind: It requires no apology to say that in such cases, ordinarily no other apparatus or splint can be substituted. The old long side splint would be clumsy and inefficient. The Buck extension would not be applicable, because it would be impossible to make extension in the line of axis of the broken bone, besides the limb would lie flat on the bed which would render it difficult to keep the fragments in a line with each other during the movements of the body made necessary in the act of keeping it and the wounds clean. There are fewer objections to the plaster of Paris splint which if properly applied would fulfill the indications very well. But to properly apply the plaster splint one must be an expert and have in his possession a better quality of plaster than is usually obtainable in small towns and coun-

try places. The John T. Hodgen modification of the N. R. Smith splint fulfils every requirement, is simple in its principles and is easily applied. For further particulars in regard to this apparatus I would refer to an excellent description of it in the *Weekly Medical Review* of September 22nd, 1888, by Dr. H. H. Mudd, of St. Louis.

The second case was a white man, aged 30, who in endeavoring to escape from an officer, received four No. 2 buckshot, two passing through the deltoid muscle, one through the upper portion of the trapezius and the fourth through the body, entering between the eighth and ninth ribs behind, about one inch to the left of spinal column, and coming out in front one-half inch to the right of the left nipple. It must have passed very close to the heart. I saw the case about two hours after he was wounded. Shock was very profound; pulse 120; respiration hurried; temperature not noted; expectorating blood profusely. He had nausea and vomiting. Gave at once one-fourth grain of morphia sulpt. hypodermically. Washed the skin well, about the wounds with a 1-1000 solution of bi-chloride of mercury, avoiding all probing, and bound the wounds up with several layers of carbolized lint. I then prescribed to control the hemorrhage from the lungs, one-half drachms each of squibbs, fld. ext. ergot and deoderized tincture of opium, to be repeated once an hour, if necessary. This controlled the bleeding very well and was continued throughout when required. Forty-eight hours later, reaction was fairly good. The dressings were soiled by the oozing from the wounds and were removed, clean ones being reapplied with the same antiseptic precautions as at first. These were permitted to remain undisturbed six days, when finding the discharges again coming out, the wounds were again re-dressed as before. It became necessary to renew the dressings three times before the twentieth day, when all the wounds were found completely healed. The night of the twentieth day he escaped from his guard and I have not had the pleasure of seeing or hearing from him since. Only twice during the period of treatment did he exhibit a temperature above 101. On the second day it was 102 and on the twelfth day he had a chill followed by a rise of temperature for a short time. The chill I attributed to malaria and gave him calomel and quinine. There was no more trouble of that kinds afterwards. There was never a drop of pus in either of the wounds, nor other evidence of inflammation. This illustrates very well what may be accomplished by proper antiseptic treatment of wounds of this kind, but perhaps not as much so as the next case. But before relating the next case, I would like to digress a moment and speculate as to the course of the shot that went through that man's body. Could it have gone in at the point it did and pass directly through and come out at the point it did and not wound the heart? The points of entrance and exit were in range with the superficial wounds. It could not possibly have followed a rib around, for it went in between the eighth and ninth and came out over the space between the third and fourth, and to have passed around outside the body it must have crossed five ribs, which would not have been at all probable.

The next case, Belle P., a young married woman, while playing with a pistol, a 45-calibre of the Colt's improved pattern, accidentally discharged it. The ball going through her dress, a heavy woolen skirt and a heavy woolen stocking penetrated her leg about midway between the knee and ankle on the inner side rang-

ing downward and outward through the muscles of the calf and between the tendon achilles and the tibia, passing out just behind the external maleolus, slightly cutting the lower end of the fibula. I was not called until twenty-four hours had elapsed after the injury, when I found the poor girl in agony from the intense pain in the wound, and the attendants applying slippery elm poultices to it. The out-look appeared to me to be bad for the success of antiseptic closure of the wound, but considering nothing could be lost by an attempt, I at once washed the whole leg and foot with a hot 1-1000 solution of bi-chloride, scrubbing it thoroughly. Did no probing only to pick out some pieces of clothing from the wound with an aseptic instrument. I then rewashed the wound with a one per cent. solution of carbolic acid, after which I wrapped it well up in a thick layer of carbolized gauze, held securely in place by a gauze bandage, the whole made still more secure by a muslin roller. The disinfecting of the wounds and parts adjoining and the application of the dressing occupied about an hour's time. Before the dressing was finished the pain had ceased, and the only thing at any time afterwards of which she complained was a burning sensation in the bottom of the foot, caused perhaps by the injury of some nerve distributed to that part. The dressing was not renewed for eight days, when finding the discharges coming through, the limb was re-dressed precisely as at first. One month from the date of the accident the wound was entirely well, and at no time had there been a particle of pus or trouble of any kind.

The missle that produces a gun-shot wound is perhaps in every instance rendered aseptic by the act of firing, so that all gunshot wounds are practically aseptic wounds, unless septic matter is carried into them either by the bullet or some other source, such as probing or handling.

At least two of these cases illustrate very forcibly what may be done by treating wounds of this kind antiseptically. Whether the treatment will become practicable in military practice remains for military surgeons to solve.

My third case, that of Belle P., indicates that it is not absolutely necessary for a wound to be dressed immediately in order to be left aseptic. In this case twenty-four hours had elapsed before it was dressed by anything but elm bark.

I have had access to no literature on this subject, consequently I will submit these cases without further comment.

TWO CASES IN GENERAL SURGERY, ILLUSTRATIVE OF THE INFLUENCE OF ASEPSIS OR CONSERVATISM.

EDWIN BENTLEY, M. D.,

LITTLE ROCK.

The treatment of epilepsy by surgical procedure has for some time been a subject of general and special interest to the profession. Its practicability, except in cases of manifest traumatism, has been exceedingly doubtful, and even then its admisibility, as a well-defined surgical maneuvre has not been generally admitted. It is clear to all that reference is made to the operation of trephining as a remedy in epilepsy. It has often been resorted to by members of the profession when other means has been exhausted and this one alternative remained. It is possible that this last resort has been applied without the benefits following that the patient might have anticipated, yet, none of us would shrink from the responsibility of the undertaking, should there be sufficient indication connected with the case to make it reasonably justifiable, or when it is the evident result of a distinct traumatism, with symptoms local or general, so manifest as to leave little if any doubt, of the traceability of the lesion. Such a case came under my observation in January last. A well developed boy of nineteen years, came to the college clinique for treatment. So far as an investigation could be made with the assistance of his father, an intelligent man, the causation could not be traced to other than an injury from a blow on the head some six years ago. The boy had been subject to fits during the period of teething, but they disappeared at the end of dentition. Some time after the injury to the head, the fits began and had continued. They were now showing a tendency to increased frequency. A careful examination of the external surface of the skull revealed a slight depression over and near the termination of the parietal bone. The attention of Prof. Breysacher on the first day was invited to this case. He examined it with much care, and dilated at length before the medical class on the nature and ultimate termination of epilepsy when left to itself. He advised the operation of trephining, as the remedy most likely to effect permanent relief. This boy was admitted to the Little Rock Infirmary and put under treatment. After deliberate consideration and consultation trephining was decided upon. The operation was made in the presence of the medical class. Doctors Breysacher, J. A. Dibrell and E. R. Dibrell were present by invitation, and contributed largely in the success of the operation. Many of us have so repeatedly opened the cranium, in conformity to the rules, that some of us have come to regard it, as it often is, as a well-nigh bloodless operation. In this instance, the often taught lesson of never setting a trephine over a sinus was fully regarded. The depression in this case seemed to be near the superior longitudinal sinus. Therefore, great care was taken to avoid it. The flap of incision was made and the trephine set decidedly to the right of the median line. But in removing the button, the opening was found to be directly over the sinus, which in this case had so far deviated

to the right that if the incisions had been made and the trephine set directly over the usual line of the longitudinal sinus it would have been avoided. As it was, while the sinus was not opened, the venous hemorrhage from the immediate tributaries was free and threatening and if not arrested would soon become alarming. An aseptic sponge, which had been fortunately provided by Dr. Breysacher, was neatly and carefully inserted by Dr. J. A. Dibrell between the bleeding vessel and the skull, arrested the hemorrhage, but in some degree thwarted the aseptic plan of the operation. For nearly two weeks the fits, which had been frequent every day, with all the attendant phenomena of epileptic convulsions entirely ceased. Then they began to appear in the form of instantaneous dazes, and continued every few days. The wound closed with very little suppuration, except where the silken liguature was attached to the sponge. After four weeks, in the presence of Dr. Breysacher, the sponge was removed, a portion of which had been absorbed. During this dressing, the patient lost instantaneously consciousness, seized a knife, but immediately dropped it. The fits did not return while in the hospital. At most, he only felt a few instantaneous flashes. When last heard from he was doing well and feeling that he should be entirely free from any and all restraint, even in the way of observation. This boy, it may be clearly inferred, owes his life, if not a complete cure, to preventative measures, and the aseptic treatment of the case.

Case II. Medium physique, fair complexion, good constitution, about twenty-five years of age and single. On the evening of the 25th of January, 1889, thrust his foot within the embrace of some revolving machinery at the Southern Cotton Seed Oil Mill, where he was employed. The result was a severe wound of the ankle joint, foot and leg, nearly wrenching the foot from the leg. He was carried by his comrades to his home or boarding place, some distance from the mill. Messengers were sent in different directions and much alarm prevailed. He was reached by me somè time in the evening. I was informed by his representatives that they preferred that nothing be done until other doctors, who had been sent for arrived. The gravity of the case was well marked by me, although there was no bleeding at the moment. A rapid examination of the wound exposed the articular surface of the astragalus, the ankle joint being freely opened. When weary of waiting, and no one coming, the immedate dressing was deferred by me. Afterward Drs. Scott, E. R. Dibrell and J. A. Dibrell arrived. The latter tying the anterior tibial artery and dorsilis pedis at the seat of lesion. A number of sutures were inserted in the wound of the ankle joint nearly three inches in length. The entire dressing being made as nearly aseptic as the circumstances would allow. On the following morning a note was received by me from Prof. Dibrell largely explanatory of the situation, and detailing what had been done, turning the case over to me with a prognosis not unlike what had been made by me. After this exceedingly courteous treatment, on the part of the doctor, he was visited by me at his office. He was found irrevocable and intent on leaving the case in my hands, and for me to infer, in the language of Pavl, "That what had been written was written." This was an example of ethical treatment of a higher order than it had ever been my fortune to experience at the hands of a fellow practitioner, in any part of this wide land, where it has been my assignment to have been located. The digression in the narrative of this

case, it is thought, will be regarded as pardonable, for oases are not too common in the desert of the medical profession. It is made for the purpose of giving expression to my appreciation and recognition of an ethical example, which, in my opinion, does the highest credit, in the way of giving exaltation to professional relation, as well as an exhibit of the relationship and regard for decorum, honor and integrity, which is possible to exist among medical men. Admission at the Little Rock Infirmary was immediately sought and obtained for this patient, where the aseptie treatment, as nearly as possible, was continued. The wound in the ankle joint never suppurated. Some three or four small abscesses in the soft parts about the foot from the severe contusions, only, were formed. The temperature never rose above the normal, and no fever or local inflammation at any time appeared from the beginning to the ending of the case, which, in my opinion, is entirely due to the persistent adherance to the aseptic method of treatment, and the comforts and skilled attendance afforded by the managers of this excellent charity.

A PENETRATING GUN-SHOT WOUND OF A ROUND BONE.

R. G. JENNINGS, M. D.

LITTLE ROCK.

It is seldom that a ball or other projectile penetrates a round bone without fracturing or shattering it into fragments. In all of my services as surgeon in the interstate unpleasantness, I only remember two or three instances of such an occurrence, and these incidentally came to my knowledge, and consequently were not directly under my personal care and observation.

In private practice such an occurrence is seldom observed, during the entire professional life of a surgeon even in extensive practice. Those cases to which I have alluded in my army experience were from small balls, and though in one instance the bone had been completely perforated, it was neither fractured or otherwise injured, being only weakened from the loss of structure it had sustained. In the other instances the projectile had buried itself, partly or wholly in the osseous tissue.

Of course, the size of the ball, its velocity, and motion, with the position and physical condition of the individual injured, have more or less favorable bearing towards inducing this unusual occurrence. But when regarded as a question of physics, the ease and facility with which a projectile is turned, deviated or diverted from the line of its course by the simplest incident, it would seem, on a momentary consideration that the actual penetration of a round bone would be an impossibility. And yet, seemingly impossible circumstances and events, when entertained in the light of comparison with directly opposite conditions, sometimes startle and astonish us in their actual occurrence. Such were the circumstances incident to the case I will now present to you.

January 1st, 1889, I was requested by telephone to go to Argenta, directly opposite the City of Little Rock, on the north side of the Arkansas River, to see a surgical case. As I happened to be very busy that morning, and could not respond at once to the summons, several messages followed, urging me to come, which I did as soon as possible, it being eleven o'clock a. m. when I arrived. I found a Mr. F. J. C., a young man of 26 years of age, a machinest, an employee of the L. R. & Ft. S. Ry. He stated that the night previous, while standing on the platform at the Hartman House in company with a friend watching an outmoving engine close on to 12 o'clock mid-night, that presently all the bells in the place began to ring, the steam engines to whistle and scream from every direction, accompanied with the discharge of fire-crackers, pistols and other fire-arms, yells, whoops, etc., creating a perfect pandemonium of unearthly noises, designed to announce to all the people, the departure of the old and the advent of the new year; he felt something strike the outside of his right leg just above the knee joint which shocked him considerable, but did not prevent him from walking to his boarding house, a full quarter of a mile distant. On reaching his room and investigating he discovered that some sort of a projectile had penetrated the leg

at the place previously stated. Examining the leg (over the wound) I found several turns of a lose roller bandage encircling it, then a piece of lint smeared with some unguent, and under this a few strips of icthiocal plaster. Removing these I observed a circular opening in the cutaneous tissue, with a dark blue circle around it; indicating to me that a pistol or gunshot ball had penetrated the leg at this point. Notwithstanding that, the external wound seemed small, I could not but believe that the ball, if it was a ball, must have been quite a large one. The wound was two inches above the external condyle of the femur, and its edge was notched toward the trunk showing that some one had attempted to enlarge the opening for purposes of investigation. I now enquired what medical gentleman had done this, or who had dressed the leg. None of those present could give me his name, but he was stated to have made several ineffectual efforts to track the projectile, whatever it was, but all to no purpose, and had dressed it as detailed. The Doctor was also credited with stating to Mr. C. and his friends, that inasmuch as he was unable to track the projectile or feel any particular tender or hard point in the soft tissues, he did not consider that any serious trouble would be likely to follow, as the substance would be soon encased in new tissue and in all probability cause little if any inconvenience to him the balance of his life. All of which was true in the light in which he viewed it. I now examined very carefully all the surrounding tissues in every portion of the leg contiguous to the wound, but could not detect the slightest clue to guide me to its exact locality. I now for some twenty minutes or longer, endeavored to track the passage of the projectile, but all to no satisfactory purpose.

I now informed Mr. C. that in consequence of the close proximity of the injury to the knee joint, and the positive evidence that some kind of a foreign projectile had penetrated his leg at the point already mentioned, and as my experience with injuries contiguous to the knee joint had been so unsatisfactory to me, that I would not only advise, but urge him to permit me to give him an anæsthetic, and then cut down and see if the projectile could not be tracked up and found, thereby removing all danger of septic poisoning from this unknown missle and other secondary results that might ensue. After considerable consultation between himself and friends, and many categorical questions to myself, the proposition was accepted, and I left, agreeing to return at two o'clock P. M., and undertake the execution of the advice given. Meantime, I chanced to meet a couple of medical students, and they went with me at the time appointed and rendered me very necessary assistance. The operation had to be performed under considerable difficulty, as I could not obtain any kind of a table suitable for the purpose and had to make use of a small, low bedstead, and in consequence was compelled to bend over and be awkwardly cramped during the whole period of the time. Chloroform was administered and a longitudinal incision made along the leg over the outer border of the femur about four inches in length, leaving the wound directly in the center of it. Using my finger as guide and pressing it along the margin of the distol end of the incision I thought I detected, just below the linnear border of the femur, a small foramen-like opening in the bone; although it seemed only an indentation, at least communicating such an impression to the finger. I now forced the pulp of my finger into this indentation as strongly as possible, and a roughness was felt as of particles of recently broken osseous

structure. Using my grooved director, I found I could press it through the outer compact tissue of the bone, into the medullary canal, and even extend it as far as the opening would allow into either extremity of the canal. Then by scratching with the end of the director, I found I could detect readily, a substance differing from bone tissue, and which I concluded from its feel must be lead. I soon succeeded in detaching a small section of the rim of a leaden bullet, and the mystery of doubt as to its nature was at once positively solved. Resuming my investigation I discovered that the ball itself had also penetrated the internal compact wall of the femur, and was firmly imbedded in this osseous structure so that it was impossible for me to dislodge it without enlarging the original opening in the external compact tissue of the bone.

Accordingly I enlarged somewhat my original incision in the soft coverings, and applied my trephine to the bone taking out quite a circle around the original perforated opening. I was now able to prize the ball out of its impacted position and extract it.

The wound was now perfectly cleansed, the fine particles of bone tissue thrown off in trephining were all washed out with a syringe, the edges of the long incised wound brought nicely together and secured with the usual interrupted sutures, then covered with a cold water compress and a few turns of a roller bandage, and the attendant instructed to keep the coverings constantly wet with cold water. A solution of morphine, two grains to two ounces of mint water was prescribed in case of suffering in the night with pain from any muscular contraction, but only to be used as necessity required.

On the second day from the operation some swelling ensued with a heavy, dull red erysipelas appearance extending up the leg nearly to the groin and the knee became hot and sensitive to the touch, but upon dressing the wound and giving free vent to a considerable quantity of a thin, unhealthy looking pus, the tension was relieved, and a general improvement followed.

The wound was dressed daily from this date with carbolized oakum saturated with cotton seed oil containing a small per cent of carbolic acid, and the healthy forces of repair continued uninterruptedly until the wound was perfectly healed.

In thirty days from the reception of the wound the patient left Argenta perfectly well and able to bear his whole weight upon this leg temporarily without inconvenience.

The bullet measured by experts, was pronounced to be of 38-calibre, and how it could have perforated the femur as it did and not fracture or shatter it was an enigma I could not solve.

My reason in urging an explorative examination and endeavoring to track up the projectile, which though unknown was firmly believed by me to have been a leaden ball, was that in all of the persons receiving wounds contiguous to the knee joint, the missle could not be traced or located, and was allowed to remain, had proved fatal. One case in particular that came under my care in the U. S. hospital in this city, (Little Rock.) I had urged at a consultation that the same course be pursued that had been in the case just narrated, but which was rejected by my superior medical officers, I had never forgotten. An officer of the line was brought in with a pistol wound nearly over the internal condyl of the left femur, and although the appearance of the external wound twenty-four hours after its reception,

seemed almost insignificant, yet I feared the consequences that finally ensued. Inflammation of the knee joint early followed, and finally metastatic abscesses formed in various parts of the body, showing blood poisoning, and ultimately one formed in the lungs, and terminated his career after two or three months of great suffering. I assisted at the post-mortem, and great was the astonishment of all present when the ball was found flattened out upon the bone not three-fourths of an inch from where it had pierced the soft tissues.

This result learned me a lesson as it did all present at the post-mortem, that had an explorative examination been made, the ball would have been easily found, and this officer's life saved beyond the shadow of a doubt.

In the case I have just presented, I fully and firmly believe a much more rapidly fatal result would have certainly followed had the ball been permitted to remain, and nothing further done than the primary dressing applied previous to my seeing it. Then the uncertain character of the missle, or that it had penetrated the osseous tissue could not by any outward examination, however carefully or critically made, be detected, or that the projectile had pierced the medullary canal and remained directly embeded in contact with the cancellated bony tissue, which with small bits of threads from the clothing, blood and exudative matter would rapidly have produced a purulent discharge which would very soon have involved the knee joint and septicemia followed and proved fatal within a very limited period of time, I entertain no doubt.

The explorative examination consequently saved the patient's life in this case, and I can but impress surgeons and those members of the profession who have listened to this report, or who may hereafter chance to read it, to always act promptly and investigate thoroughly, all wounds contiguous to the knee joint, either by explorative procedure, or other methods; to fully and thoroughly satisfy themselves as to the nature, extent and character of injury inflicted, so as to reduce this danger to the life of such an unfortunate individual to the lowest possible minimum.

SHOT WOUNDS OF LOWER EXTREMITIES.

Z. ORTO, M. D.

PINE BLUFF.

MR. PRESIDENT AND GENTLEMEN: The case I report to you to-day, though rare, is of extreme importance, both from a surgical as well as a medico-legal standpoint, and, although this report is necessarily very imperfect, having no notes of the case, a careful and critical consideration is earnestly desired.

On the 31st day of January, 1885, I was hastily summoned to go to the assistance of Dr. H., of this city, a few blocks distant, the messenger stating a man was bleeding to death from a pistol wound. I lost no time in answering the call, and, when I arrived, found Dr. H. attending a strong, muscular negro man, about 35 years of age, who, in a street altercation, had just been wounded by a pistol shot in the upper and anterior portion of the left thigh, about one and one-half inches below Poupart's ligament. The patient was rolling and tumbling on the floor of an undertaker's shop, whither he had been taken, seemingly in great agony; bowels acting often and freely, pulse very rapid; no hemorrhage.

Dr. H. stated he saw the patient almost immediately after the shot was fired, being near at hand, and that blood of a venous character spouted from the wound in a large and continuous stream, and that it had suddenly ceased flowing, before anything could be done towards arresting it, and that he had given one hypodermic injection of morphia. As before stated, on my arrival there was no hemorrhage, not even oozing, though the patient's clothing was well saturated. Another hypodermic injection of morphia was given, which, to some extent, quieted the patient. On examination, we found a small tumor in close proximity to the wound, which imparted to the hand a peculiar thrill, there being also a distinct bruit. A compress was applied over this tumor, held in place by a bandage carried around the thigh and body, and the patient was then removed to a boarding house in an ordinary wagon. It now being late in the evening, the patient was not seen until the following morning. He had slept well, and asked to be allowed to be taken seven miles in the country to his home, which was not granted. At this visit the pulse was slightly accelerated—temperature normal. There was some swelling of the limb, with paralasys of both motion and sensation—a pin thrust into the flesh below the knee gave no pain whatever. The bandage and compress was now removed, and the local condition was found to be the same as evening before. The compress and bandage were reapplied with more care, and the patient given instructions to remain perfectly quiet, and that we must be called at once if hemorrhage should ensue.

The patient was visited daily—his condition remaining much the same, except a gradual return of sensation and motion in the wounded limb; the external wound gradually healing, patient often assisting himself off and on his cot when the bowels would move, though positively against instructions. All went well until the morning of the fifteenth day, when I received a message to visit Jackson at once

as he was bleeding. I answered the call promptly, but found patient dead—bedding and everything near saturated with blood. The friends stated that in the effort at coughing patient sat up in bed, and that blood spouted in a large stream from the wound, and that the man was dead in less than five minutes.

Post-mortem examination by coroner twelve hours after death: Dissection showed femoral artery penetrated, above origin of profunda branch, partial division of anterior crural nerve, while femoral vein was completely severed. An anuerismal sack had formed, extending from the wound in the artery to, and embracing, the open mouth of the vein. All things were now made plain; the sudden stoppage of blood on the evening of the difficulty, in fact in a very few minutes after shot was fired, is explained by the integument sliding over the bullet canal, the blood finding easy return through the vein, caused the anuerismal phenominon—the temporary paralysis was caused by partial division of the crural nerve, together with shock.

The importance of this case cannot be passed over lightly, as it may fall to the lot of any one of you to treat a similar case at any time, and it must be done with the knowledge that a human being must be tried for his life for committing the act. May I ask, was the treatment proper? What would have been the effects of ligation? Was amputation justifiable? The rarity of this case may well be appreciated, when we find no mention of an identical case in any work on surgery at my command. In part third of the surgical volumn of the medical and surgical history of the late rebellion, we find out of fifty-eight thousand seven hundred and two cases of shot flesh wounds of the lower extremities, only one hundred and fifty-six instances of wounds of the larger blood vessels. I find only one case reported where the femoral vein and artery were both divided, producing anuerism, as in the case just reported, but the injury in this case was below the profunde branch in the artery and below the point where the femoral vein receives the saphena. In this case, which was that of Private D. Rapp, Company K, Seventh Indiana, aged 20 years, No. 98—the wound was received on 30th November, and operation of tieing both vein and artery was performed on 9th of December, patient dying four days afterwards with a gangrenous limb.

Of the one hundred and fifty-six cases above referred to, thirty-three were treated without operative interference, with a mortality of 71.8 per cent, while eighty-seven cases were treated by ligation with a motality of 70.1 per cent.

A CASE OF CHRONIC OR DRY GANGRENE OF THE LOWER EXTREMITY.

R. G. JENNINGS, M. D.

LITTLE ROCK.

On December 10, 1888, I was called to see B. N., a German, aged 42 years, fair complexion, 5 feet 7 inches high, very spare and slim; weight 123 pounds, and by occupation a bar-tender.

He was complaining of his feet and legs, and had them both in a flax-seed meal poultice; stated that about six weeks previously he had fever for several days, then both feet and legs began to swell, and in forty-eight hours were very much swollen, and felt unusually cold to him. He had called Dr. M., who had made him several visits, but as he did not improve as rapidly as he expected, he had discharged him, and had been since then following his own ideas and the suggestions of friends who had called to see him, and had, therefore, tried almost everything that had been thus recommended. An examination disclosed the fact that all the toes of the left foot were black and blue, cold and dead to the *touch*, with bluish-black patches on the dorsum of the foot, involving nearly a half of the external surface of the epithelium. Some of these patches contained a small raised portion of the epidermis, which, upon rupturing, exuded a thin, dirty, brown or black putrid fluid.

The entire left foot, except in a few places, had a cold, dead feel almost to the ankle joint. The radial pulse at the wrist was very faint, feeble, small, soft and easily compressed. The femoral artery could be felt below Poupart's ligament, while the artery in the popliteal region was just perceptible, but at the internal maleolus of the ankle it could not be detected. The right leg and foot, though the latter was somewhat swollen, seemed perfectly warm and apparently quite natural to the feel.

This examination at once convinced me that I undoubtedly had a case of chronic or dry gangrene from an idiopathic origin, something I had never before encountered in the thirty-two years I had been in practice. It also became evident to me that its etiology was directly from the circulating system, but what produced it could be but a matter of speculation. Though *a priori*, it must in all probability have resulted from the product or sequence of the formation, partial or complete, of a thrombus, or blood clot in a vein or an artery, probably the former, and that embolism had followed, giving rise to the symptoms of weakness and prostration observed at this time. In all probability the swelling of the left foot had been so extensive as to compress and check the arterial supply to this extremity, thereby stopping entirely the circulation of the blood through this part. With the heart's action enfeebled, and correspondingly its propulsive force lessened, the arrest of the circulation in this distant member, through the increased *pressure* of its unusually swollen condition, aided materially in producing a result that could be logically considered in the light of cause and effect.

As the right foot had never been so extensively swollen as the left, and had never communicated the same degree of cold, but had, on the contrary, been quite susceptible to the influence of extraneous heat, impressed me with the supposition that the thrombus or blood clot had probably occurred in the femoral vein in the neighborhood of Poupart's ligament, and that this blood clot had gradually disintegrated or degenerated into a pus composition, became detached, entered the circulation, contaminating the contents of these vessels, and produced a septic condition of the blood.

This conclusion, however, though both entitled to and given precedence, did no exclude a possibility of renal complications; but a thorough examination of the urine did not present evidence of sufficient disturbance to be rated a factor of any importance in the conclusion previously reached. There were several marked constitutional symptoms of blood poisoning; the tongue was heavily furred, the bowels loose, of a diarrhœal character, with a putrid, animal odor; the skin of the entire surface of the body had a dry, rough feel, and was of a pale, dirty, white color, with a general marasmus or atrophied appearance, clearly indicating that there had been no assimilation of food whatever for some time. The gravity of the case, as also the almost certain conviction of its ultimate fatal termination in the not very distant future, foreshadowed litle hope from any course of treatment that might be adopted.

However, I determined to make use of those agents that, in my judgment, offered any prospective benefit to the patient.

The gangrenous foot was immersed in a solution of hot alcohol and water for a short period, then wrapped in cotton and dry external heat ordered kept constantly and evenly applied to it.

Quinine, opium, camphor and capsicum capsules were administered at stated intervals, with milk, eggs, rare beef diet, and a stipulated allowance of brandy or whiskey, every four hours. All efforts proved unavailing, the gangrene steadily advanced up the leg, notwithstanding the measures already stated that had been tried to check its progress, together with the application of the tincture of iodine several times per day to the parts involved, and a ring painted around the limb on the apparently healthy tissues, just above the green or black surface, in the vain hope that it might promote a line of demarcation.

The toes became perfectly black, dry, hard and stiff as an Egyptian mummy, and soon the entire foot presented a similar appearance in every respect. After the gangrene had reached the knee, the middle toe of the opposite or right foot began to turn dark and dry, also a considerable swelling of the right cheek, and minor other ones on different parts of the body were noticed, marking the septic influence as radiating through the entire system.

The gangrenous discoloration apparently halted at the knee for three days, when it advanced rapidly above it and had almost reached the trunk of the body when, on the 18th day of February, the patient gradually sank and died from complete exhaustion.

This case was such an unusual and unique one to me, that I invited our President, Dr. Bentley, to see it with me, as also quite a number of the students of the medical department.

Dr. Bentley examined his heart very critically, and as his breathing at this time

was performed wholly with the abdominal muscles, he became inclined to the opinion that the man must have had at one time in his life pneumonia, with plurisy, and probably endocarditis, and that, in consequence, adhesions had formed and bound down the organs to such an extent that their functional action had become impeded, and the movements of the thorax thereby obstructed, and hence abdominal breathing. The man survived some two weeks only after this visit and examination.

Six hours after death, medical students W. J. Joyner, W. P. Illing, Morgan Smith, and one other whose name I do not now recall, at my request and in my presence, made a post-mortem examination of the body, which was extremely emaciated, and his extremeties very small.

The left leg was first amputated in the upper third of the femur, when a very large quantity of a heavy putrid pus escaped, with very little blood or bloody-colored matter. This leg was hard, dry and black, with the joints of the foot and ankle firmly anchylosed, while the rest of the amputated portion of it was green and black, but not yet dry and hard.

The kidneys and liver, though small, were, to all appearances, healthy. The upper lobe of the left lung was almost entirely disintegrated, and only a small amount of a pulpy substance remaining. The heart was small, healthy and not bound down as presupposed with old cicatricial or adhesive fibrous bands. The blood in the circulatory vessels was nearly exhausted, and what there was remaining was mingled with the heavy putrid matter already stated.

The extreme rarity of this form of gangrene, wholly idiopathic in character, is my excuse for presenting it to this Society; and while, perhaps, it has afforded little interest to the members, it will serve to remind them of the fact that instances of this rare and unfrequent affliction are now and then met with by the general practitioner.

GASTRO-ENTEROSTOMY FOR CANCER OF PYLORUS.

J. T. JELKS, M. D.

HOT SPRINGS.

In July 1888, Geo. F. aged forty years, laborer and student, consulted me for what he called dyspepsia. He had been treated for indigestion for several years without much benefit. For a year or more he had had frequent attacks of vomiting after meals, the material being very acid. When I saw him he had been in bed for a week or ten days but complained of no pain. A few weeks prior to this time and for months before, he had suffered with great pain in the epigastric region. He was greatly emaciated, retaining his food for two or three hours only, when it was invariably vomited, the material frequently containing a "dark coffee ground" looking material. These symptoms together with slight tumor in the right of epigastric region led me to make the diagnosis of cancer of the pylorus.

I told the patient what my diagnosis was, and that death from starvation was a certainty in a few weeks. With pencil and paper I drew for him a diagram of his stomach and the diseased portion and proposed resection of the pyloric end as holding out a slight hope. He declined to have anything done. For ten days I tried to sustain him with peptonized milk, though he took only a very small quantity, water being the only thing he could retain on his stomach. He had been starving for more than a month prior to consulting me. At the end of ten days he asked for, and urged me to attempt resection of the pylorus. Explaining to him both the resection and gastro-enterostomy, if the former could not be performed by reason of adhesions or the amount of tissue involved. He left me free to act as I thought proper when the stomach was reached.

With the assistance of Drs. J. H. Gaines and M. G. Thompson and J. H. Carpenter I proceeded to do the operation.

The room was prepared by being scrubbed with solution bichloride of mercury 1-1000 and the walls and ceiling washed with the same; the instruments boiled for one hour in a 3 per cent. solution of carbolic acid. Each of the assistants and myself were bathed in a solution of sublimate 1-5000, care being taken to bathe the head and whiskers, the latter wrapped in carbolized towels and clean operating gowns donned.

The patient was prepared for the operation by having a bath all over the day previous to the operation. At the time of operation the abdomen was shaved, scrubbed with soap and water then with bichloride solution 1-2000 this followed by the parts being washed in ether and again in boiled water. This being done the abdomen was opened in the linea alba from the umbilicus to the ensiform cartilage. All hemorrhage was checked with compression forceps before the peritoneum was opened. When this membrane was opened on the grooved director the lower edge of the liver, presented also a portion of the stomach. With a little traction the latter organ was brought into the opening when it was ascertained

that the anterior wall was involved in the cancerous deposit for nearly if not quite half its extent, including the pylorus and a portion of the duodenum and a large extent of the smaller curvature. The great omentum had about one hundred or more small secondary deposits. So much of the stomach was involved that I decided to make gastro-enterostomy instead of pylorectomy.

Before opening the stomach and jejunum they were stitched together on what was to be the posterior part of the opening, a hole three-fourths of an inch made into both the stomach and jejunum and the parts united by continuous catgut sutures. During the operation, from time to time, patient required hypodermic injections of brandy and atropia by reason of great collapse. Time of the operation, one hour and fifty minutes, and he was so collapsed that all the details of the dressing were not carried out. Toilette of peritoneum was made, the abdomen stitched with interrupted suture of silk which had been previously boiled in three per cent. carbolic acid and before the operation dropped into a one to twenty solution of same.

Patient came out from the ether very weak. Hypodermic injections of brandy and atopia repeated. He was brought to bed and bottles of hot water placed around him, his head being lowered slightly. He talked some to his wife but died in a few hours.

Three hours after death a post-mortem was held, body very much emaciated. Opening the abdomen I removed the pyloric end of the stomach.

One of the greatest difficulties of the operation is the length of time required for its performance. The patients being so weakened from loss of flesh and previous enforced fasting they can not stand the long anæsthesia required for so many stitches. Thanks to Dr. Senn, of Milwaukee, the operation may now be performed in fifteen to thirty minutes by the use of decalcified bone plates. When the opening in the stomach is made one of the plates is slipped into it and the organ transfixed with the threaded needle, the bowel treated the same way, four knots tied and the work is done. It has been my pleasure to be with Dr. Senn in some of his experimental work in intestinal surgery and to witness the simplicity and effectiveness of the bone plates. I would urge upon those who have not done so, to purchase "Senn's Intestinal Surgery."

REPORT OF CASES.

J. T. JELKS, M. D.

HOT SPRINGS.

Case 1st.--Mrs. M., while driving with her daughter was thrown from the buggy into the middle of the road and received a large scalp wound extending from a point between the eyes to the juncture of the parietal and frontal sutures, thence curving downward over the temple to a line drawn from the lowest point of the wound on forehead to the centre of the left ear over the seam. The scalp was cut to the bone—peeled from the same throughout its entire length and breadth—the flap resting on the left cheek. The entire surface of wound was covered with fine sand and gravel from the road-bed, much of it being ground in and requiring an hour for its removal. When this was accomplished the scalp was shaved for some distance around the wound, the entire part washed with three per cent. solution carbolic acid after it, the scalp, had been bathed with soap and water. After this the flap was adjusted, fastened with adhesive plasters, a pad of antiseptic cotton applied—over all a well adjusted bandage. Under the flap a few threads of antiseptic silk were drawn to act as drainage tubes. She was now removed to her house. The dressing was not disturbed for a week, and when removed the wound was found healed without one drop of pus, and scarcely a line shows where the wound was.

Case 2nd.--I was called to attend a boy aged 14 years. Found him with a compound comminuted fracture of the head of the third metacarpal bone, from gun-shot wound. The ball entered on palm of hand, passing through and making its exit on back of wrist. There had not been very much hemorrhage. His hand was thoroughly scrubbed with soap and water, then with a solution of sublimate 1-1500, after this the wound was injected with solution of iodoform in ether, the hand wrapped in sublimated cotton and an aseptic bandage applied.

The wound healed under this one dressing without the presence of either pus or inflammation. It remained in place about three weeks.

Compound fractures, or compound comminuted fractures, have until recently been the dread of all surgeons, but under the modern antiseptic and aseptic manner of dressing them, they heal as kindly and readily as any other wounds, and without suppuration. It may be put down as a fact that there is no such thing as "laudable puss" about which we used to hear so much. There is no pus without the pus microbes, and if they get into a wound it is through the negligence or ignorance of the surgeon. When called to a wounded man we should not interfere in any manner whatever with the wound until we are prepared to do it aseptically. If patient is suffering from collapse, administer to that symptom, get him to his home and go deliberately to work to render the patient, his wound, the person and hand of the surgeon aseptic. If it is a compound fracture never attempt to reduce the fracture until the patient is ready for the permanent dressing. After his conveyance to his home then thoroughly scrub the parts about the wound with

an antiseptic solution, either of a three per cent. solution of carbolic acid or a 1-1500 of corrosive sublimate. If it is a compound fracture the ends of the bone should be well washed with it, before reduction is attempted. I emphasize these antiseptic precautions to which I attribute the success of modern surgeons, because I have recently seen or known of men who pretended to considerable surgical skill, operate without much preparation. I have seen a surgeon while engaged in a dangerous operation scratch his arms and then go ahead with his work. Is it any wonder such an operator has pus in his wounds? Again I have seen an assistant who was presumably well drilled, and who had cleaned up thoroughly, put the needles into his mouth and then use them on the wound. To those of us who know that the mouth of the ordinarily healthy man contains twenty or more different varieties of microbes and among the number, the staphlococcus aurius and albus, it is no wonder that an operator does not always succeed when he has such an assistant. Another surgeon I have known to get ready to syringe out a uterus, supposed to contain retained menstrual blood, by putting his syringe, taken I suppose from the dusty and dirty drawer in his office, on the soiled carpet of an ordinary hotel room. Such practice is criminal in its negligence or ignorance. Another surgeon prepares for an amputation by placing his saw on the floor by his side, presumably for convenience. Another covers the table on which are his instruments, with the ordinary newspaper, possibly it had been lying in anything but a clean office for weeks. Other surgeons I have seen use an old dusty, velvet lined tray as an instrument tray, the bottom of the tray covered with a slip of newspaper, during some operation. I noticed an assistant with a soiled looking sponge with which he was endeavoring to remove some blood from a facial wound. The patient vomited, the assistant's sponge rested on the vomit-soiled face and was from time to time pressed into the wound. And yet such operators cry out against antisepsis in surgery. Another surgeon will blow his nose on a soiled handkerchief, put this back in his soiled and dusty pocket and then proceed with his operation as though the catarrhal secretions from his nose did not contain thousands of pus microbes, either the stapholococcus aurius, or S. albus, or the streptococcus pyogene. Of course, the hands become soiled by such proceedings and should never be allowed to touch a wound surface until they have been thoroughly cleaned. Neither should an operator allow his hands to scratch his head or beard or touch or handle a chair or any article of furniture in the room, or even his own or the patient's clothing. If he does he is not aseptic.

ARTHROTOMY OF KNEE JOINT FOR FLOATING BODY AND SYNOVITIS.

J. T. JELKS, M. D.

HOT SPRINGS.

I was asked by Dr. M. G. Thompson to see Mrs. B. She was a large, fleshy woman, about forty years old; has complained of pain and swelling in the knee joint for some years. When walking the streets would be suddenly attacked with the pain and be as suddenly relieved of it. She has been treated for years for rheumatism of the joint. Upon examination, I found a swollen, tender joint, with fluctuation and enlargement of the quadricep bursæ. Upon careful handling of the joint, I detected a loose substance on the exterior of the joint at the point where the condyles of the femur and tibia come together. This was soon lost to be again found after some manipulation. I diagnosed loose cartilage and advised arthrotomy for it. Patient consented, and on the 7th day of April, with Drs. Barry and Thompson assisting me, I operated on the case. My hands and arms were thoroughly scrubbed with a brush, and sublimate solution 1-1000, special care being used to render the under surface of the finger nails clean with the pen-knife, and then soaking them for two or three minutes in alcohol. Then they were well scrubbed with Bichloride 1-1000 for five to ten minutes. All the knives, forceps, safety pins and needles were passed through the flame of an alcohol blow-pipe or lamp and then dropped into a 5 per cent. sol. carbolic acid where they remained until needed. Cat gut sutures were used, prepared after the manner of Kocher. They were also dropped into the carbolic acid solution. The patient having previously had a bath, she was moved into a room from which the carpet had been taken up, and the floor of which had been well scrubbed with a 1-1000 solution of Bichloride of mercury. Her right leg was then well shaved from midway the leg to midway the thigh, washed with sulphuric ether to remove the fatty matters of the skin, then washed with soap and water, the scrubbing brush being freely used. After this, the leg was scrubbed with Bichloride, 1-1000, the feet of both legs and the bed were covered up in towels wrung out of Bichloride solution. She was anæsthetized with chloroform and the joint opened, on what we thought was the loose cartilage, but when we got into the joint it had again disappeared. I then passed my index finger into the joint and searched all it recesses, but the one behind the femur, and failed to find the substance we had operated for, but in the joint were several tufts of floating fringes, we might call them. After a dilligent search, I withdrew my finger and turned my head away to look for some instruments, and Dr. Thompson said it came out with a gush of synovial fluid. A small drainage tube was then iuserted so that its inner end just penetrated the capsule of the joint. The latter was united by a continuous suture of cat gut. Then the fascia was also united and finally the skin, but I forgot to put a safety pin through the drainage tube. The knee was now wrapped up in absorbent gauze which had been boiled

for one hour, and then boiled for another hour in Bichloride of mercury, 1-10000. Over this gauze, several layers of absorbent cotton, dry, were wrapped, and over the cotton a bandage of sublimated gauze and over that a sheet of rubber tissue was placed, and the whole leg then incased in a plaster of paris bandage. Let me say, that before the wound was closed, I irrigated the knee joint with 5 per cent. solution of carbolic acid, and then again with Bicloride solution 1-2000. Patient came out from under the chloroform very nicely indeed. During the afternoon next day she had a slight elevation of temperature, I believe as high as 100, but after the second day her temperature and pulse remained normal. Wound was dressed on the seventh day under the same antiseptic precautions as had characterized the operation. The drainage tube was found somewhat buried in the tissues, but by opening the wound it was extracted without difficulty. April 17th the knee was redressed by Dr. M. G. Thompson and found healed with exception of a small granulating surface. Motion in the joint good and painless, swelling all subsided and patient expresses herself as feeling well. This last dressing was made without the plaster paris covering, and was retained in place for one week or ten days when she was allowed to get up and go around the house.

May 4th, 1889, when last heard from, the patient was at her home, in Indiana, very well indeed.

A CASE OF TUBERCULOSIS OF KNEE JOINT WITH PERIARTICULAR ABSCESS.

J. T. JELKS, M. D.

HOT SPRINGS.

In the winter of 1888, I was called by Dr. M. G. Thompson to see Mr. Blank. I found him suffering very much with his right knee, which was greatly swollen, the swelling extending up the thigh and down the leg, and from a small opening over the joint puss was exuding. Temperature 102 deg.; some cough. Leg and knee had been poulticed with flax seed meal. The small opening in the joint had been made by some previous medical attendant. The internal condyle of tibia was enlarged and painful; had been so for several years; pain in the joint also all this time. In autumn of 1887, he received a fall. Since that time patient has been worse; pain in the knee more severe.

Diagnosis—Tuberculosis of head of tibia with secondary infection of the joint and periarticular abscess.

The abscess was opened freely and scraped out with a Simon spoon in several places. The patient previously having his leg shaved, scrubbed with soap and water and Bichloride 1-1000, and lastly by sulp. ether. Large rubber drainage tubes, calibre ¼ inch were carried down to the bottom of all the recesses of the abscess, cut off even with the skin and transfixed with safety pins. More than a pint of pus was evacuated from the leg and thigh. It had burrowed to the middle of the thigh and also down near the middle of the leg. The drainage tubes I used had been kept constantly in a jar, in 5 per cent. solution of carbolic acid. The leg was now dressed with moist gauze, sublimated into the solution of the sublimate, some tartaric acid having been dissolved to render the bichloride stable. Over the gauze sublimated cotton, and over that more gauze.

During the entire operation, the patient's legs, feet and body were wrapped in antiseptic towels.

The dressings were made abundantly large to absorb the discharges from the large cavities, and were changed once a week. In a few days temperature was normal. Improvement ceasing, it became a question of amputation or resection of the knee. Recent involvement of apex of right lung in the tubercular process rendered an operation imperative. By reason of his emaciated condition, the involvement of the lung and the rapidity with which he could be gotton into the fresh air decided amputation.

After thorough antiseptic precautions as above described, with an Esmarch constrictor applied, amputation was performed at junction of middle with upper third of thigh by Dr. M. G. Thompson. Three vessels ligated, ligatures cut short and wound united with catgut sutures. Chloroform was used as an anæsthetic, and we were twice compelled to stop its exhibition on account of respiration ceasing. After operation, bottles of hot water applied around the patient, he rallied slowly, and was well of the operation in about one month.

I resected the ends of the tibia and femur and now present them to the society for inspection.

You will notice several small cheesy masses on the surface of the bones, and also that the entire articular surface has been destroyed. These cheesy masses are tubercular, and from one or more of them an entrance was made into the joint. Secondary infection of the joint by the pus microbe followed, and the joint was thus destroyed.

He died about one year after the operation, from tuberculosis of the lungs. A few years ago these patients were all subjected to amputation or left to die a miserable, protracted death. It may be safely put down as a law that if only one lung is involved in the tubercular infection, resection is the remedy. If both lungs involved, amputation. By reason of antiseptic surgery, these patients get well after resections, whereas, formerly amputation was their only hope.

Primary infection of a joint with tuberculosis bacilli is a rare affection. The microbes are usually stopped in the epiphesis of the long bones, thence find their way into a joint, produce a peculiar inflammation characterized by granulation tissue, more or less effusion into the joint, the masses of granulations giving the old name, "fungus degeneration."

From a vast number of experiments with this granulation tissue it has been clearly demonstrated that it is tubercular in character. The bacilli of tuberculosis have invariably been found in them, and when the material has been inoculated on guinea pigs they have all died of tuberculosis. Again, this material inserted into proper localities has always produced the so-called scrofulous gland disease. Again, material from these enlarged glands introduced into a joint, or into the peritoneal cavity invariably produces a tubercular joint affection, or a general tuberculosis, thus demonstrating beyon the shadow of a doubt the identity of scrofula and tuberculosis. Again the bacillis of typhus has the same color reactions to aniline as that of tuberculosis, and when the microbe of lupus or lupus tissue is introduced into the peritoneal cavity of the guinea pig, tubercular peritonitis and general tuberculosis result, demonstrating that lupus is a tubercular skin disease.

OVARIOTOMY WITH COMPLICATIONS.

J. T. CLEGG, M. D.

SILOAM SPRINGS.

In August, 1888, I was consulted by Mrs. Perry, wife of Dr. H. H. Perry, an eminent physician of Benton county, on account of tumor within the abdomen.

Mrs. Perry is 38 years old, mother of four children, two of whom are living, the youngest seven years old. General health good. Menstruates regularly.

At that time the tumor was about on a level with the umbilicus and about the size and shape of a six or seven month's pregnant uterus, apparently more prominent on the left side and seemed to have begun its growth in the left side. It evidently contained fluid and had developed about as rapidly as a uterus would in gestation, and might easily have been mistaken for a pregnant uterus. On examination per vaginum I found complete procidentia uteritis and old rectocele and vesicocele but all these were readily reducible, which rendered it evident that the tumor was not uterine because no movement was imparted to the growth from the uterus. It was also evident that the tumor was cystic and contained fluid, because fluctuation and the "fluid move" were very distinct. That it was ovarian in in its origin I had not the slightest doubt, consequently I advised a laparotomy which was declined, she hoping I was mistaken as to diagnosis. Thus matters rested until in January, 1889, when I was again called to consider an operation. At this time the patient's emaciation was extreme. The lower extremeties were very ædematous, not only the lower extremeties, the œdema amounted to almost general anasarca. She was coughing seriously, physical signs indicating more or less acute bronchitis with perhaps also pulmonary ædema.

The tumor filled the entire abdomen and was so compressing the thoracic organs as to greatly impede respiration and circulation.

February 1st a consultation was called with Drs. Yates and Webster of Cincinnati, Ark., and Dr. Tidball, of Siloam Springs. After duly considering her general condition, the amount of compression exerted on all the viscera, the improbability of her bearing an anæsthetic, the condition of her lungs and preference on her part, we concluded to tap the cyst, with the understanding that we only hoped to relieve the immediate symptoms and to so improve the general condition as to render us able to do a radical operation at a future date. About seven gallons of a greenish looking, watery fluid were drawn off through an ordinary trocar and the abdomen bandaged tightly. She rested quite comfortably for a few hours afterwards, but on the following day there was great tympanites and symptoms of intestinal obstruction which was overcome after the abdominal bandage was loosened and gas began to escape from the rectum. She now developed temperature, which to be brief, did not entirely subside, but ranged from 100 to 104 degrees until after the tumor was removed. I could now detect an irregular, modulated mass in the right side, extending from low down in the pelvis where it could be distinctly felt from the rectum to nearly the lower borders of the ribs. The œdema

quickly disappeared from the lower extremeties and she was left almost a living skeleton, if you will permit the expression. After a few days her appetite returned, and notwithstanding her fever, her digestion became good. Three weeks after the tapping the cyst began to rapidly refill and by the 15th of March had again or almost quite filled the abdomen. She now became importunate for a radical operation, though I told her, her chances were not good for recovery, but nothing would deter her from having an operation done, and feeling it was nothing but just to allow her every and the only opportunity for life, I determined to operate and fixed Monday, March 25th, as the day for operating. Heavy rains and high waters prevented Drs. Yates and Webster from assisting. She, not willing to defer any longer, and knowing myself that every moment of delay was hazardous, with the assistance of Dr. Wm. Tidball and Dr. J. A. Doss, of Siloam Springs, the latter managing the anæsthetic, I proceeded to operate. Three days previously all the furniture had been removed from the room, the carpet taken out and the floor and walls scrubbed with a two per cent. solution of carbolic acid. The morning of the operation, the nurse, my assistants and my myself took a hot bath and changed our clothing. The patient also was sponged off, being too weak to take a tub bath, with warm water, then with alcohol and quinine, having clean clothes put on. Everything being ready, she was put on the table at one o'clock, P. M., anæsthetized, chloroform and ether being used, the abdomen was washed with soap and water, then well bathed in a solution of bi-chloride of mercury, 1 to 1000, the hands and arms of myself and all who assisted me were well scrubbed with soap and water and held for some minutes in bi-chloride solution. The instruments, sponges, ligatures, silk, towels and napkins were and had been several hours immersed in either a two per cent. carbolic acid solution or a 1 to 1000 mercuric solution. The temperature of the room was brought to about 80 or 85 degrees Farh., and maintained that hot or hotter all during the operation. The abdomen was opened in the usual manner. A small quantity of ascetic fluid was found in the peritoneal cavity. The tumor was adherent to almost every surface of the abdominal wall, but fortunately, not much to any viscera. The incision was enlarged so as to extend from the umbilicus to nearly the mons veneris. The adhesions were easily broken down by my hand and an ordinary fenestrated Sims vaginal depressor, except in the pelvis, where they were very strong and torn up with difficulty, leaving many bleeding points requiring ligatures. The tumor was multilocular, composed of one very large loculus or cyst with extremely thin walls containing about five gallons of greenish, watery fluid and a mass weighing nine pounds, of smaller cysts, from the size of a walnut to that of an orange, filled, some with gelatinous, some with cheesy, some with purulent looking matter, growing from the right ovary to the right broad ligament, forming a long, slender pedical. The large cyst was tapped with an ordinary trocar, but most of the fluid escaped however, on account of the thinness of the sack around the outside of the trocar, but great care was exercised to allow none to enter the abdomen. After all the fluid that would flow was drawn off the conglomerate mass of smaller cysts was turned out altogether. The pedical was transfixed and tied with No. 12 braided silk and severed about an inch from the ligature. The end of the stump was thoroughly charred or cooked with a brown hot iron, the ends of the ligature cut close and dropped back. Ten or twelve

bleeding points in the pelvis were tied with fine iron dyed silk and a number of other oozing surfaces were pressed with sponges holding Monsel's solution. This together with repeatedly washing out the abdominal cavity with plain water, very hot, effectually restrained all bleeding. I was admonished by an assistant that my patient's pulse was very low and in his opinion she was sinking. Such did appear to be true, consequently I closed the abdominal wound more hastily than I otherwise would have done. The abdominal wound was closed by means of silk sutures passing through the entire thickness of the abdominal wall, including about half an inch of peritoneum. They were placed about four lines apart and tied in a manner so as to bring as much peritoneal surface in contact as possible. The wound was sponged off with mercuric solution, dried, sprinkled with iodoform, over which was placed a layer of carbolized gauze, then a layer of salicylated absorbent cotton, then another layer of carbolized gauze. These were secured by long strips of adhesive plaster, extending half-way around the body, and over this I placed a thick layer of ordinary cotton batting as found in the stores, which had been thoroughly sterilized by being baked several minutes in the oven of a cook stove. Over the whole was pinned a flannel roller. It is well to state the dressings were freshly prepared. As a rule, I prepare my own antiseptic dressings. The woman was then put to bed and surrounded with bottles filled with hot water. Reaction was very prompt, considering her condition and the magnitude of and the difficulties attending the operation. During the operation hypodermatics of whisky were given freely. Just how much was injected I do not know, but it caused an extensive sloughing of skin and cellular tissue from nearly the elbow to above the insertion of the deltoid muscle. There must have been ten or twelve square inches involved. The slough dropped out with a sharp, well defined line of demarcation, and proved one of the worst accidents with which we had to contend during the subsequent progress of the case. She was put to bed at thirty minutes past three, having been two hours and a half on the table.

The following bed-side notes made at the time will show the subsequent management and progress of the case. You will observe they indicate very much irritability of the bladder. This irritability existed prior to the operation and had given much distress. It was really better after the operation than before. These notes represent observations made almost hourly by Miss Emma Moyer, an intelligent young lady, who nursed the case through Dr. Tidball or myself. At the risk of being tedious I will give them largely in detail, abridging where I can do so without omitting any circumstance of importance.

March 25th, 6 o'clock, p. m. Two and a half hours after operation, reacting nicely. Pulse 112. Taking water at short intervals. Complains of bladder, urine drawn with catheter.

8:20, p. m. Pulse 110. Urine drawn.
2:15, a. m. March 26th. Urine drawn.
2:45, a. m. Took toast water.
3:35, a. m. Took toast water.
5:25, a. m. Took toast water. Pulse 110.
6:00, a. m. Took sup coffee. Temperature 99. Pulse 110.
6:35, a. m. Urine drawn.
7:30, a. m. Took coffee.

9:00, a. m. Pulse 100. Temperature 100.
9:30, a. m. Given toast water.
11:00, a. m. Flax seed tea at her request.
11:05, a. m. Urine drawn.
12:40, p. m. Coffee.
2 p. m. Urine drawn.
2:30, p. m. Beef tea.
4:00, p. m. Temperature, 99¾. Pulse, 108.
5:30, p. m. Urine drawn.
5:45, p. m. Flaxseed tea.
6:35, p. m. Given enema of milk and beef tea.
7:45, p. m. Given 15 grains potass. bromide.
9:00, p. m. Flaxseed tea.
10:40, p. m. Urine drawn.
11:00, p. m. Given toast water.

Wednesday, March 27th, 12:30, a. m. Took toast water.
1:00, a. m. Given sweet milk.

Sweet milk and flaxseed tea or mucilage were given alternately, every hour, for nearly twelve hours, tablespoonful at a time. 1:40, 3:05 and 5:07, a. m., passed urine voluntarily. Complains very much of her arm where whisky was injected.

7:00, a. m. Temperature, 99¾. Pulse, 104.
7:15, a. m. Urine passed naturally.
8:15, a. m. Enema of sweet milk and beef tea.
11:00, a. m. Complains of pain in bowels and distress about the rectum. Administered an enema of warm soap-suds which was returned at 11:20 with some very hard lumps, which I supposed to be the coagulation of the milk, given per rectum at 8:15, and some fecal matter.
11:40, a. m. Allowed two tablespoonfuls of tomato juice.
1:15, p. m. Temperature, 101. Pulse, 104.
1:35, p. m. Removed more hard lumps from the rectum.
1:55, p. m. Threw into the rectum one-half drachm tinct. opium in flaxseed mucilage.
2:50, p. m. Took tomato juice.
4:50, p. m. Took sweet milk.

Sweet milk and tomato juice were given alternately, four tablespoonfuls of each, every two hours.

6:45, p. m. Temperature, 101. Pulse, 110.
6:50, p. m. Passed urine.

March 28th, 6:00, a. m. Temperature, 102½. Pulse, 120. Very weak; gave a little whiskey.

8:00, a. m. Bowels moved, firm and natural.
9:00, a. m. Temperature, 102. Pulse, 104.
11:00, a. m. Took one-fourth pint sweet milk.
1:20, p. m. Temperature, 101. Pulse, 120, and steadily using stimulants.

She is now taking one-fourth pint sweet milk every four hours, alternating with tomato juice.

5:00, p. m. Temperature, 101¼. Pulse, 108.

10:20, p. m. Bowels moved naturally.

March 29th, 1:20, a. m. Temperature, 101. Pulse, 110.

2:11, a. m. Passed urine, bladder irritable.

6:35, a. m. Temperature, 101. Pulse, 108. Rested fairly well during night.

9:30, a. m. Temperature, 101. Pulse, 116.

2:35, p. m. Temperature, 100¾. Pulse, 96.

She is now taking one-half glass of milk every four hours.

6:45, p. m. Temperature, 100¼. Pulse, 106.

8:00, p. m. Changed her bed. She is taking at different intervals, milk, whiskey, tomato juice and flaxseed mucilage. The two latter at her own election. She desires them and I allow them. Of course I limit her as to quantity, allowing only a few spoonfuls of each at intervals of three or four hours. She urinates on an average of once in two hours, bladder still irritable.

March 30th, 1:00, a. m. Temperature, 99¼. Pulse, 100.

9:25, a. m. Temperature, 99½. Pulse, 90. Given an enema of soap-suds.

9:30, a. m. Large discharge from bowels.

12:20, p. m. Allowed a small bit of toast.

1:10, p. m. Temperature, 99¼. Pulse, 108.

5:00, p. m. Ate a piece of squirrel with some cracker and tomato.

6:35, p. m. Temperature, 98½. Pulse, 108.

March 31st, 1:00, a. m. Ate some squirrel, cracker and tomato.

1:20, a. m. Temperature, 99½. Pulse, 108.

Continues to take milk, flaxseed tea, whiskey, etc.

There occurs no particular change in the record until Tuesday, April 2nd, when I find her complaining of abdominal pains with tenderness on pressure.

8:45, a. m. Temperature, 100. Pulse, 120.

11:00. a. m. Opened the dressings for the first time. The wound is doing well, appears to be closed, except about an inch in the centre. Every alternate suture was removed. There had been no discharge. The original dressing which was perfectly sweet was reapplied.

12:00, m. Temperature, 100. Pulse not noted.

7:50, p. m. Temperature, 101. Pulse, 104.

Wednesday, April 3rd. 9:50, a. m. Temperature, 99. Pulse, 108.

There remains a sameness in the clinical notes from now throughout the case. Temperature, from 98½ to 101½, pulse, from 96 to 116. Appetite and digestion good. More generous diet allowed. Bowels moving once or twice a day, kidneys acting well, bladder less irritable, sleeps fairly well at night.

Monday, April 8th, 10:35, a. m. Temperature, 100. Pulse, 108. This is the fifteenth day since the operation. Changed the dressings of the abdominal wound which is doing very well, united throughout. The remaining sutures were removed and adhesive strips were applied. The abdomen was not so tender and but little tumefaction is found anywhere on the surface. The slough caused by the hypodermatic injection of whiskey in her arm is loosening and slightly suppurating. It was cleansed with a solution of peroxide of hydrogen and dressed with a weak ointment of chloride of zinc. During the separation of the slough in the arm it was kept cleaned daily with peroxide solution. After the slough was completely separated, the ulcer was only dressed every two days, being first

washed with carbolized water and wrapped up in antiseptic gauze, some weak antiseptic ointment being applied next the sore to prevent the dressings from adhering.

My last note was made Sunday, April 14th, and shows there had been by that time complete separation of the slough, leaving a clean, healthy looking sore. Temperature, 99, pulse, 96. From this time forward the case progressed favorable. On May 4th she was able to leave her room and go to her meals with her family.

Perhaps a more unpromising case for a successful termination can hardly be found in the annals of this operation. The woman was reduced to almost the last extremity before being tapped. Not an organ in the body was performing its normal function on account of pressure exerted by the enormous size of the tumor. When after tapping for the purpose of relieving this pressure a low grade of peritonitis developed which continued until after the final removal of the growth.

The refilling of the sack had added still more to the depreciation of the system. Without an operation death was inevitable in a comparatively short time. That one is justified in operating under such unfavorable indications the result in this case proves. The tendency of all cases of ovarian cysts particularly, proliferating cystomata, is to continue to grow and to destroy the life of the subject. Cases of spontaneous cure being so rare that they are never to be expected or considered in the prognosis. Therefore, it is undoubtedly the duty of every physician diagnosticating a tumor of this kind to offer as the only chance of relief, laparotomy. All other means are utterly useless. Tapping, which is often resorted to, is almost as dangerous as abdominal section, and never in a growth of this kind can be of more than temporary benefit and should never be done when a radical operation is at all practicable or possible, except, perhaps, as in this case, where the mechanical effects of the tumor are so distressing that it is necessary to procure immediate relief. When a cyst is tapped, one should be fully prepared to do a laparotomy at once, should an inflammation of the cyst or a peritonitis occur. As a rule, abdominal section should be done and the tumor removed as soon as the case is made out, even though we may not be positive as to diagnosis. We are usually justified in opening the abdomen for diagnostic purposes. With our antiseptic precautions, the experience of Lawson Tait and others, shows laparotomy in itself to be comparatively free from danger. Of course, when an exploratory incision is made one should be prepared to remove any removable morbid growth found. In fact, as far as operative interference is concerned, a pathological differentation is not of much importance in abdominal tumors. So soon as we are sure that there is a tumor and that the tumor is not carcinomatic, the proper thing to do is to attempt its removal. To be sure, every careful surgeon will exclude pregnancy before operating.

Every operation is in the beginning to some extent an exploratory one. There is no data yet known by which it can be ascertained beforehand whether it is possible in any case to complete the operation. The earlier an operation is done the better is the prospect of saving the patient. The old rule of waiting to get the patient in a good condition before operating should in many instances be reversed. Operate first and improve the condition afterwards. This is logical and usually expedient. The longer an operation is deferred the more inroads the disease has made upon

the system, the more it has reduced the vitality, and the less able will the patient be to bear an anæsthetie, and the more liable will she be to succumb to shock or unavoidable hemorrhage.

Sepsis is no longer a bugbear to the surgeon and we approach an operation of the gravest nature with almost perfect assurance as far as septicæmia is concerned. Antiseptic precautions are now so simplified as to be practicable under nearly any circumstances and among any surroundings.

Why the mortality of ovariotomy is so much greater in America than in Europe is due no doubt to no other cause than that in Europe patients submit to operative procedures earlier, before their life is already endangered by the disease and before the operation becomes the last extremity. The same is true in our own country. Dr. Engleman attributes to this cause alone, the higher mortality had by operators west of the Mississippi River, than that by operators of the Atlantic coast cities. The further we get from great cities and surgical centres the greater fear people have of surgical measures and the more reluctantly will they submit to a cutting operation of any kind, let alone one of such magnitude as ovariotomy. Consequently in rural districts like ours, the operation is rarely done. If I am not mistaken, this is the second one reported to this society, not but what without doubt it has been done oftener by some of the members.

To conclude. Nothing promises relief in a proliferating cystoma of the ovary but ovariotomy. The earlier the operation is done the better chance of success. While the operation should be done as early as possible, there appears to be no case so grave or so far advanced as to contra-indicate an operation.

Tapping a tumor of this kind should never be done with the expectation of any but transient benefit.

The attempt to remove any non-malignant morbid growth from the abdominal cavity is justifiable.

Strict attention should be given to antiseptic details in every operation.

VAGINAL HYSTERECTOMY FOR CANCER OF UTERUS.

J. R. DALE, M. D.

ARKADELPHIA.

In December last Mrs, F., aged 51, married thirty years and the mother of five children, consulted me for some uterine disease characterized by bad smelling discharges and occasional hemorrhages. Upon examination I found an enlarged cancerous uterus—the cervix ulcerating and very much enlarged. Finding the uterus movable, I proposed total extirpation, which was gladly accepted. The whole matter was explained to her and her family, and the dangers attending the operation duly explained.

I invited Dr. J. T. Jelks, of Hot Springs, to assist me in the operation, and Drs. Graham and Scott, of Arkadelphia, were also present. The patient was etherised by Dr. Scott, and placed in the lithotomy position before a good light. The operation was commenced by drawing the uterus down by means of the vulrellum forceps, the mucous membrane divided in front of the cervix and the bladder dissected away from the uterus up nearly to the fundus, when the same process was repeated on the posterior surface, dissecting it from the rectum. At this stage of the proceeding the right broad ligament was brought down by means of the finger and clamped with hæmostatic forceps, but in the effort to get the finger around and above the ligament the uterine artery was ruptured and bled very freely before it could be caught up with the forceps, the patient loosing a great deal of blood. When it was finally caught, attention was turned to the left broad ligament, forceps applied and the tissues divided between the forceps and the uterus for a short distance, other forceps applied and the scissors used again, until eight pairs of forceps were in the vagina. At this stage of the operation, the woman was in a condition of collapse, and hypodermic injections of brandy were resorted to. When the operation was begun the uterus seemed movable enough to warrant the attempt at total extirpation, but as we proceeded we found it was impossible to get it all away, and as the woman was very low we used the scissors to clip away all we could, then, with the sharp spoon of Simon, the stump was curvetted until but a small portion was left, including the fundus and the left side of the organ, with eight hemosstatic forceps constricting its blood supply, with strips of iodoform gauze between them to act as drainage tubes.

The patient was now put to bed in a very unpromising condition, hypodermic injections of brandy given and bottles of hot water applied. She rallied in a few hours and began to improve. The eight pairs of forceps were removed in forty-eight hours. After the removal of the forceps, I removed the remainder of the body of the uterus.

In two weeks the patient was allowed to sit up, and in four weeks went to her home.

May 29, 1889—In company with Dr. Jelks, I have to-day had the privilege of examining Mrs. F. For a month she has complained of slight pain and some

discharge. In the examination we found the anterior and posterior wall of the vagina for one inch or more involved in a new deposit of cancerous material.

On the subject of vaginal hysterectomy for cancer of uterus, many usages are now before the profession, and many operations have been performed. Performed first in 1828 by Blundel, the operation was revived in 1878-9 by Fruend, Czerney, Billroth, Shroeder and Mikutiz, and we now have reports of about 400 cases by different operators, with an average mortality of 28 per cent. Contrasting this with abdominal hysterectomy, with a mortality of 72 per cent, we see how much less dangerous is the vaginal method than the abdominal.

Concerning the advisability of the operation for uterin cancer, the profession are divided into two hostile camps—one believing in and advocating it, represented by Martin, of Berlin. The other, led by Dr. A. Reeves Jackson, of Chicago, opposing the operation, and adducing proofs of the unadvisability of such a proceedure for cancer of the uterus, and advocating high amputation of the cervix.

Dr. West says: "The unanimous voice of the profession has pronounced against the operation." Mr. K. Thornton rejects it as an unjustifiable operation. Prof. Schroeder, of Berlin, before his death, said: "It is not yet a satisfactory operation." Dr. A. Reeves Jackson says: "It should be condemned as unjustifiable," basing this statement upon the ground that the operation is more fatal than high amputation of the cervix and that life is not prolonged by it.

Martin, of Berlin, reports 311 cases in a paper read before the Ninth International Medical Congress, with a mortality of 15 per cent. Some operator has reported with a mortality of 11⅔ per cent. Another, Leopold, with a death rate of 6¼.

Thus we see that in ten years the death rate has been reduced to about the same standard as has now been reached in ovariotomy, the latter operation requiring many years to reach so low a death rate. The future holds out bright promise to this class of patients.

With a death rate of 10 per cent or less in vaginal hysterectomy, we have reached the ground occupied by operations for removal of the cancerous breast with the axillary glands. No operator would object to the latter operation with such a mortality and yet they do fight the former on the same ground. If we have reached this stage of success in ten years, what may we not attain to in the near future, when the details of the operation are better understood and the cases better selected.

Pawlick reports a death rate of 10 per cent. in the high amputation of the cervix, and we certainly have not the same chance of permanent cure as after the complete removal of the organ. Again, if we may conclude that a freedom of two years from return of the disease constitutes a complete or radical cure, then we have attained greater success in the new operation than we have been accustomed to get for removal of other malignant tumors. Mundi reports a permanent recovery of 39 per cent., while Leopold reports the permanent recoveries as high as 69 per cent. This is a most wonderful result from such an operation. The disease returns after some of the operations as early as four months, as it has done in this case.

REPORT OF A CASE OF TAIT'S OPERATION.

J. R DALE, M. D.

ARKADELPHIA.

Mrs. B., aged——, married, occupation housewife, mother of two children, consulted me during 1888 for great mental disturbance, which had increased greatly during last few months. Before marriage she had hallucinations of various kinds, increased during her menstrual periods. After marriage she grew much better, until just before confinement with her first child, when all the symptoms exagerated, After delivery she was better, and continued to improve for a few months, but was soon pregnant again and was delivered of a second child eleven months after the first. During the latter part of gestation she was quite violent in her insanity and it became necessary to watch her. After delivery she did not improve under treatment and I suggested Tait's operation, hoping the removal of the tubes and ovaries would restore her to mental soundness again.

I invited Dr. Jelks, of Hot Springs, Drs. Graham and Scott, of Arkadelphia, and Dr. Reamy, of Malvern, to assist me in the operation. On February 21, at 2:15 p. m., she was chloroformed; her abdomen shaved, scrubbed with soap and water, then with solution of sublimate 1-1000, and finally washed with sulphuric ether. All the instruments used in the operation-were boiled in a 5% solution of carbolic acid. The operator and each assistant had a bath in solution of corrosive sublimate—the hands and arms well scrubbed with the same just before the operation—their heads and whiskers enveloped in towels wrung out of solution carbolic acid, and the person of each enveloped in clean sheets. After these antiseptic precautions I opened the abdomen in the linear alba, between the umbilicus and symphasis pubis—incision three inches in length. After getting through the peritoneum I asked Dr. Jelks to remove the ovaries. He found both of them enlarged and adherent. Fishing up the right ovary and tube the latter was clamped by hemostatic forceps, tied with cat gut between the forceps and the uterus, close to the latter organ and cut away from its attachments and the stump cauterized with the actual cautery. When the forceps were removed the ligature slipped and considerable hemorrhage occurred. The stump was seized again with Billroth forceps, clamped and returned to abdomen. The left ovary was now brought to surface; tube clamped with hemostatic forcep, removed and the actual cautery applied. Dr. Jelks did not try to ligate this pedicle, but putting on two pro-forceps the handles were brought out at the upper angle of the wound. The abdomen was now sponged out; the peritoneum united with continuous cat gut suture, after putting in a drain of iodoform gauze which was brought out at the lower angle of wound, cut off about an inch from surface of abdomen, transfixed with a safety pin to keep it from being lost in the cavity of the abdomen.

The muscles and skin were now united by interrupted sutures of cat gut and the patient put to bed. The time of the the operation, two hours, much of which time was spent in trying to stop the flow of blood from the right pedicle. After clos-

ing the abdominal wound the parts were dusted with iodoform, a strip of iodoform gauze covering the same and whole abdomen covered with antiseptic gauze prepared with solution corrosive sublimate 1-2000, the handles of the forceps being well wrapped with the gauze. She was given ¼ grain of morphia and 1-120 of atropia hypodermatically when put to bed, and bottles of hot water placed around her. The morphia and atropia were repeated each day for a week to keep her quiet. The forceps were unclamped and removed at the end of forty-eight hours. She had slight fever for several days after the operation, but at no time was it above 102 F. On the 25th, four days after the operation, the iodoform gauze drain was removed. At end of two weeks wound healed, except small granulating spot at lower angle of wound. In four weeks she was up and directing her household affairs with her mind in very good condition. She has since that time had one or two attacks of mental derangement about one month apart, but no menstrual show.

May 25th, 1889. Patient for some time has been with her friends in a distant State and is improving.

Removal of the tubes and ovaries or the latter alone for mental derangement has been advised by Battey, Hegar, Olhausen, Goodell, and others. We are justified in attempts to relieve psychoses, which are evidently connected with menstruation or made worse by its recurrence, when other methods of cure have failed.

RAILWAY SURGERY—AN ANALYSIS OF 368 CASES—SOME OBSERVATIONS ON THE SAME.

R. B. CHRISTIAN, M. D.

LITTLE ROCK.

In preparing a paper on Railway Surgery, I have been somewhat at a loss in determining as to how I could best present the subject, so as to do it something like justice, and, at the same time, render it entertaining. I don't know that I shall succeed in doing either, but, whether I do or not, I trust that an honest effort in this direction, although, perhaps, feeble, will at least receive your kind indulgence, and not be altogether fruitless of results such as the subject demands and the occasion requires.

The gigantic strides made in railroad building in our country during the past quarter of a century, and the great advances accomplished in matters of system and economy pertaining to the control and management of railways, have developed, along with other things, the important necessity of some organized plan whereby the vast number of employes engaged in the repairs and operation of railroads, when suffering disease or injury, might receive promptly and efficiently such aid, either medical or surgical, as their condition of distress might require. That there are frequent and urgent needs in this respect cannot be questioned for a moment, when the great exposures and dangers incident to railroad employment are considered.

Such a necessity, viewed both from a humane and an economic standpoint, is beneficial alike to employer and employee, and the success already attained from efforts put forth in this direction, has become so fully recognized and appreciated by railway corporations, that at present almost every railroad and system of railroad throughout the country has established as a part and parcel of its organization a medical or hospital department.

The developments and improvements of railway medical service since its inauguration as an organized work, and the large number of surgeons therein engaged, and giving it their special attention, have brought railway surgery prominently to the front and given to it that recognition as a distinct field of surgical practice which otherwise it could not have attained. Organization is thus accomplishing for railway surgery and railway surgeons what it has already accomplished for the medical profession at large. Last year, in the city of Chicago, was organized the National Association of Railway Surgeons, under most favorable auspices. Its charter membership was composed of representative men in this line of work from all sections of the country. The Association held its second annual meeting in the city of St. Louis this spring, with an attendance of about 400 surgeons. The meeting was a success in all respects, and this Association thus placed upon a firm and sure footing, bids fair to accomplish much good both for surgery in general and especially in improving and elevating surgical service as connected with railways.

Railway injury or injuries among railway employes, considered in the aggregate, with reference alone to the circumstances, habits and character of railroad men and their employment, may be classed as distinct from accidental injuries occurring under other circumstances and among people otherwise employed, but considered individually with regard to special features, their variety in character, location, etc., they are entitled to no such distinction or classification. With the exception of gunshot wounds almost every variety of injury is met with in railway surgical work, and this is not to be wondered at when the much diversity of employment, together with the great variety in machinery and tools handled on railroads is considered. As illustrating this and other points connected with railway injuries more clearly and concisely than I could possibly do otherwise, I invite your attention to a brief analysis of 368 cases which have been taken from the record just as they occurred during a period of six years from 1883 to 1889:

STATEMENT NO. I, SHOWING THE VARIOUS OCCUPATIONS OF THOSE INJURED.

Firemen	76
Brakemen	68
Mach nists	39
Switchmen	34
Bridge laborers	21
Shop laborers	21
Freight laborers	8
Section laborers	8
Engineers	12
Boiler makers	12
Bridge carpenters	11
Shop carpenters	7
Car repairers	9
Conductors	6
Track foremen	5
Train porters	3
Blacksmiths	4
Watchmen	3
Baggagemen	2
Tie inspector	1
Pipe repairer	1
Train master	1
Painter	1
Ticket agent	1
Passengers	7
Tramps	7
Total	368

It will be seen from this statement, as would doubtless be supposed, that those most exposed to accident are the men engaged in the running and handling of trains, much over half the number here enumerated being employed in this capacity, firemen and brakemen standing highest on the list.

Injuries among stationary employes, while, as a rule, not of so grave a character, are of greater variety than those occurring among train men.

STATEMENT NO. 2, SHOWING APPROXIMATE AGES OF INJURED.

Under 20 years	17
Between 20 and 30 years	197
Between 30 and 40 years	106
Between 40 and 50 years	36
Between 50 and 60 years	10
Over 60 years	2
Total	368

From this statement we find that a majority of those engaged in railway service are young men, under the age of 30 years. The number of those over this age grow less as the age of 40 is approached, and still less between the ages of 40 and 50.

STATEMENT NO. 3, SHOWING VARIETY, CHARACTER AND LOCATION OF INJURIES.

BURNS AND SCALDS.

Arm	1
Back and side	1
Foot	1
Fore arm	1
Hand	1
Total	5

CONTUSIONS.

Abdomen	5
Arm	5
Back	11
Chest	1
Fingers	8
Foot	21
Forearm	7
Hand	7
Leg	11
Shoulder	2
Thigh	3
Toes	1
Total	82

CRUSHED.

Fingers	17
Foot	3
Leg	4
Total	24

DISLOCATIONS.

Ankle	1
Hip	1
Shoulder	2
Thumb	1
Total	5

FRACTURES.

Clavicle	8
Fingers	10
Forearm	12
Foot	3
Hand	2
Leg	8
Jaw (lower)	1
Patella	1
Ribs	8
Thigh	2
Toes	2
Total	57

LACERATED, PUNCTURED AND INCISED WOUNDS.

Arm	1
Back	1
Face	15
Fingers	84
Foot	3
Forearm	5
Hand	18
Head	25
Leg	10
Thigh	6
Toes	8
Total	176

SPRAINS.

Ankle	13
Back	3
Wrist	3
Total	19

According to this statement, out of a total of 368 cases of injury, 195 were located in the upper extremities, 102 in the lower extremities and 71 in the trunk and head, thus showing that injuries of the extremities are largely in the majority, with the hands and feet suffering most.

STATEMENT NO. 4, SHOWING MANNER OF INFLICTION OF INJURIES.

Collision of hand cars	4
Falling off hand cars	2
Lifting hand cars	1
Run over by hand cars	1
Collision of engines and trains	11
Coupling cars	58
Falling and jumping from trains moving	42
Falling and jumping from trains still	8
Falling and jumping from trestles, bridges and platforms	13
Falling on track	5
Falling in running over cars	1
From falling pieces of wood and iron	3
Handling baggage	2
Handling timber	27
Handling railway iron	1
Handling freight	12
Jumping on trains moving	16
Handling wood and coal in firing	46
Engine wrecks	2
Struck by moving trains	5
Working in machine shops	77
Working on engines	9
Miscellaneous causes not specified	22
Total	368

STATEMENT NO. 5, SHOWING MONTH AND SEASONS MOST PROLIFIC OF INJURIES, SIX YEARS FROM 1883 to 1889.

January	27
February	28
March	29
April	29
May	21
June	17
July	21
August	35
September	29
October	38
November	55
December	39
Total	368

From this statement it appears that the fall and winter months furnish the largest number of injuries, on account, doubtless, of the large increase of business during these months, necessitating a corresponding increase in the number of employes, and, also, to be attributed in a large measure to the cold, freezing weather

of these seasons, rendering, as it does, railway work more dangerous and uncertain. Of the total number of cases of injury enumerated in this analysis, there were four that resulted fatally and were as follows:

No. 1, switchman. Compound fracture of lower jaw, with other severe wounds of head and face. Death occurred within three days after receipt of injury at Missouri Pacific Railway Hospital, St. Louis.

No. 2, colored laborer. Both feet crushed, necessitating immediate amputation of the left at tarso-metatarsal articulation. The weather was extremely cold at time injury was received, and the man was much exposed, both prior and subsequent to its occurrence. He was sent immediately to hospital at St. Louis, where he died in three or four days. The cause of death was not learned.

No. 3, passenger. Both feet and legs crushed. A double amputation in lower third of the thighs was contemplated, but before necessary arrangements for the operation were completed, he was found to be rapidly sinking. He died about five hours after receipt of injury, evidently from shock.

No. 4, fireman. Rear and upper portion of left side of thorax crushed, arm and forearm fractured and severe lacerated wounds of head and face. Death occurred three hours after receiving his injuries, from exhaustion, as the result of internal hemorrhage.

Among those cases requiring operative procedure in their management, I beg leave to call your attention to the following three cases of foot amputation, a consideration of which may be of interest and will, perhaps, afford some instruction.

Case 1, brakeman, age 26. About two-thirds of right foot crushed. Immediate amputation after method of Pirogoff. Patient was sent without delay to railway hospital at St. Louis. Sloughing occurred and it became necessary to make a second amputation in the lower third of the leg, which was done by Dr. W. B. Outten, of St. Louis, who reported patient scrofulous and a slow recovery.

Case 2, colored laborer, age 23. About one-third of left foot crushed. Immediate amputation at tarso-metatarsal articulation. Dorsal flap long. Plantar flap short on account of scarcity of sound material. Patient was sent immediately to St. Louis Hospital, where he died in a few days. He had received other injuries and had been greatly exposed in very severe weather, and his death was evidently due to causes other than the foot injury alone afforded. Nothing was learned as to immediate results of the operation.

Case 3, boy, age 11. About one-third of right foot crushed. Immediate amputation at tarso-metatarsal articulation, the internal cuneiform bone being removed. Sound and ample flaps were obtained. The boy remained at home in charge of his parents. Recovery was rapid and the result very satisfactory.

Foot amputations for railway injuries, as to results, are attended with some peculiar difficulties to be attributed, chiefly, to the anatomy of the point involved and to the crushed and lacerated character of the injury. At best, the foot allows but a small amount of material out of which to construct flaps of a size amply sufficient, and the character of injury is usually such that it is extremely difficult to determine at once the real extent, or just where the line of amputation may be safely drawn. In selecting the point of operation it is, of course, desirable on the one hand that as much of the injured member be preserved to the patient as is possible, and, on the other, it is none the less important that ample flaps of

sufficient vitality be obtained in order to make the operation itself a success, Two frequently, perhaps, the former consideration is allowed to influence the surgeon's judgment to the neglect of the latter. Unless, in such operations, sufficient flaps can be obtained of sound living tissues, rather than run the risk of sloughing and thereby subjecting the patient to a second operation, I am of the opinion that it is the better plan to carry the line of amputation above the ankle.

With regard to immediate effects, management, etc., of railway injuries, I shall only speak briefly.

Nervous shock consequent upon injuries in general among railway employes, as a rule, is not so frequently manifested or so pronounced in character as, perhaps, is to be observed elsewhere, and, under other conditions and circumstances of life. Two reasons which may be offered as accounting for this one:

1st. Railway employes are usually men of very strong and vigorous constitutions, and being accustomed and inured to the changes and hardships of a dangerous occupation, their systems are fortified against and do not readily yield to the demoralizing and depressing influence of injury. And,

2d. A large majority of the injuries received in railway service are located in the extremeties, where they are not so liable to produce the effects of shock as when situated more centrally, in the vicinity of the great nerve centers and vital organs of the body. I do not speak in this connection of what some writers on this subject have termed "delayed shock," or of that other variety of shock attributed to violent concussion of the brain or spinal cord, received in railway collisions generally, and manifesting its peculiar effects at a remote period. I do not regard these as true varieties of shock, at least their exitence as such is questionable.

Hemorrhage, as a result of railway injuries of a crushed, lacerated character, for obvious reasons, is not, as a rule, either profuse or continuous, and this is observed in wounds of this character, involving some of the larger arteries of the body.

In the large majority of cases, the primary dressing is all that the injured railroad man receives at the hands of the local surgeon. He is then sent to one of the railway hospitals, where he receives further care and treatment. It is none the less important, however, and essential to his comfort and welfare, both immediately and remotely.

The wound and its adjacent parts are cleansed as thoroughly as circumstances will permit. All useless fragments about it are removed, the parts properly adjusted and secured as the nature of the injury may require. Vaseline freely applied on strips of lint, sometimes accompanied by a sprinkling of iodoform, and then followed by necessary amount of bandaging, constitutes, usually, the primary dressing for contused and lacerated wounds, and, also, for burns and scalds.

It is soothing in its effects, relieving the pain almost immediately, sufficiently antiseptic, and, when its removal becomes necessary, this may be done without causing pain or undue disturbance of the wound. The virtues of vaseline, employed as has just been indicated, cannot be too strongly emphasized. Its non-irritant properties, the complete protection it gives to the wound from atmospheric influences, (thus meeting the ends of antisepsis), and its thorough adaptability and convenience of application under all circumstances and variety of conditions, are qualities recommending it as one of the most useful and effective agents that the therapeutics of surgery affords.

HYPERTROPHY OF THE PROSTATE GLAND—COMPLETE RETENTION OF URINE—SUPRAPUBIC PUNCTURE.

A. C. JORDAN, M. D.

BEEBE.

On August 3rd, 1888, I was called to see D. J., aged 58, living a short distance in the country. Upon my arrival I found my patient lying on a bench under a shade tree in the yard. He was lying with legs flexed on abdomen, and appeared to be suffering the most excruciating pain. Pulse, 130 per minute, surface bathed in profuse perspiration, extremities cold and abdomen very much distended, frequent spasmodic attempts to void his urine, simulating in a striking manner the "bearing down" pains of a woman in the second or third stage of labor.

The clinical history of the case as related by the man was as follows:

For several days prior to this attack he had been engaged in making rails and was compelled to do some heavy lifting. Had difficulty of micturition for several days, but no complete retention, till the day before I saw him, when he found that he had frequent desire to urinate but could not. A physician was called and made several ineffectual attempts to pass the catheter. Failing in this he directed hot fomentations over the already distended bladder and left the patient, assurring him that he would soon be relieved.

I found the man following the directions of the physician who preceded me, awaiting the promised relief. Realizing that something must be done and that speedily, I decided to make an effort to pass a catheter. I found the urethral canal filled with blood, and several long shreds of clotted blood were removed. I then introduced a small sized soft rubber catheter which passed without trouble till it reached the prostatic portion of the urethra, when it met with an obstruction. I made persistent efforts to pass it beyond the obstacle, using a moderate degree of force, but my efforts were futile. Suspecting the obstruction to be an hypertrophied prostate, I made a digital examination per rectum, and found the gland greatly enlarged. I next introduced a medium sized silver catheter, determined to force it into the bladder, but after using considerable force and failing, I desisted, and sent a boy to my office for my operating case, which contained a very small silver catheter.

In the meantime I gave hypodermic of morphia to relieve the spasmodic contraction of the vesical walls.

As soon as the messenger returned, I succeeded after patient effort, in passing the small instrument into the bladder. But I found that only a few drops of urine passed. On withdrawing the catheter, I found the small orifice completely occluded with blood. After cleaning out the blood I again introduced the instrument, but again the orifice was closed. I abandoned the idea of relieving the man *per via naturalis*.

Three routes into the bladder suggested themselves to my mind.

1st. By the urethra, forcing a passage through the prostate.

2nd. By recto-vesical puncture.

3rd. By supra-pubic puncture.

I chose the last, as it presented the least vulnerable point for the induction of inflammation. After shaving the hypogastric region, and scrubbing the surface with solution of corrosive sublimate, 1-1000, I took a medium sized trocar and canula, and selecting a point in the linea alba, about one inch above the pubic arch, I plunged it through the abdominal parietes into the bladder, directing the point of the instrument downward and backward, in order to avoid the peritoneum. I withdrew the trocar leaving canula in *situ*, through which passed a large quantity of urine possessing a strong ammoniacal odor. After allowing nearly all to pass off I had the patient placed in bed and removed the canula. I covered the abdomen with iodoform gauze and directed that the recumbent position be maintained, in order to prevent extravasation of urine. After leaving an opiate to be given during the night, I returned home, after first instructing the family to notify me at once, should the abdomen begin to swell.

I heard nothing more from my patient till the fourth day after the operation, when he presented himself at my office, and reported himself well. He stated that he had not felt the least inconvenience from the operation, and that he had passed his urine *per via naturalis* since the morning following the operation. Since that time to the present he has not been troubled with complete retention, although occasionally, after a hard day's work or exposure to a cold, damp atmosphere, he has some difficulty in micturition.

I report this case, not because of its rare occurrence, nor because I have anything new to offer in the way of surgical interference. But in view of the fact that at least one-third of the men who have passed the age of fifty years, are troubled to some extent with enlarged prostates, and we, as physicians and surgeons, are frequently consulted by these cases, we should, therefore, acquaint ourselves with the pathological changes which this little glandular body undergoes during life, and be ready to give such relief as may be offered by medicinal and surgical interference.

REPORT OF A CASE OF PUERPERAL FEVER.

W. W. HIPOLITE, M. D.

DE VALL'S BLUFF.

On Tuesday, May 14th, I was called to see Mrs. G. (col.,) on the ninth day after her confinement. She was then attended by an ignorant colored mid-wife, and I was told that labor was not difficult and that the woman seemed to be doing well till the third day after confinement when she had a chill, followed by fever; and that during the next day she had vomiting and purging of billious matter; and that she became nearly senseless with fever, using the expression as given to me. The lochia had been suppressed for a time but had returned and was bloody.

Upon entering the room I found the woman covered heavily with quilts and blankets which her attendants had insisted upon keeping over her much to her discomfort, for the day was warm. It is a common practice among the negroes to keep the parturient woman thus heavily covered, with doors closed and perhaps a fire in the room where cooking is done, though it may be mid-summer. An intolerable stench greeted my nostrils. The bedding and soiled clothing of the patient had not been removed since her confinement, excepting the removal of a folded blanket from beneath her soon after the completion of labor.

Upon examination, I found the patient with high fever; pulse, 150, small and wiry; temperature, 105.2; partial mental derangement; abdomen swollen and tympanitic; tenderness over the uterus, especially so over the left side; œdematous swelling of the labia; great difficulty in passing urine, and there had been no secretion of milk up to that time and none since then. Her general condition indicated great danger and the outlook was discouraging in the extreme. I promptly ordered a removal of the soiled clothing and superfluous bed-covering, and had water heated, with which I freely irrigated the uterus and vagina, using for this purpose a continuous spray syringe and a tube brought with me for the purpose. The irrigation was continued till the parts were well cleansed and carbolized water was then used. Carbolized oil was applied to the vulva by means of cloths. This done I directed that cloths wrung out in warm water be applied to the abdomen, to be removed frequently and then followed by a poultice of peach tree leaves. I administered eight to ten grains of calomel, to be followed with castor oil if required. Quinine and antipyretic remedies were prescribed and an efficient nurse secured. Directions were left for irrigation with warm water to be repeated every three to four hours, followed in each case with antiseptic injections; and for the abdomen to be fomented from time to time till my return. Owing to the distance and to the difficulty experienced in crossing White River I could see the patient but once a day. I left her at 6 p. m., and returned next day, May 15th, at 11 o'clock, a. m. and found the patient much improved. The mind was clear; the abdomen less tympanitic; less tenderness over the uterus; pulse reduced from 150 to 130 beats per minute, with temperature, 101.6 My instructions had been faithfully carried out. There had been two or three mod-

erately thick billious operations without the use of oil. There was still much pain during micturition, owing to wounds of vagina and vulva. The lochia less sanguinolent and not unduly offensive. There was still great œdema of the labia, but not so tense. I directed quinine and antipyretics continued in diminished doses, with irrigation every six hours.

Thursday, May 16th. Upon visiting the patient to-day at 11 o'clock, a. m., I found her doing well; pulse, 110, with temperature lowered. Swelling of the abdomen reduced, little tenderness over the uterus and little difficulty in passing urine. The patient rested well and took some nourishment for the first time. Quinine discontinued, because the patient said it always destroyed her appetite when she took it.

Friday, May 17th. Upon my return to-day I found the patient greatly prostrated, with sunken, anxious countenance, bathed in a cold perspiration; pulse, 130, weak and thread-like; brown tongue, sordes about the teeth and gums, etc. I was told that she was doing well till just before dark on the evening before, when she suddenly had a chill, followed by a profuse, cold perspiration, which had kept up all night. No attempt at irrigation had been made after supervention of the chill, because of the weakened condition of the patient. I found no perceptible increase of swelling or tenderness. It now occurred to me that I had greatly missed it in discontinuing quinine, for I regarded this as evidently a malarial chill, and should have been anticipated.

I at once administered brandy, morphine and atropia, and freely irrigated the uterus, giving directions that this be not again omitted. Directed quinine every three hours, morphine every six hours and brandy from time to time as might seem necessary.

Upon my return on May 18th, I found marked improvement; pulse, 120, moderately soft, temperature, 101, little tenderness over the uterus; abdomen no longer tympanitic; œdema of vulva nearly gone; lochia becoming steadily less; bowels and bladder acting freely. Patient showed a disposition for food and took some chicken broth. From this time forward the improvement was rapid and steady up to the time I last saw her, on Sunday, May 26th, when she was sitting up two hours at a time.

The foregoing case is interesting as illustrating the good results which have followed and was, seemingly an important result of the free irrigation of the uterus with warm water, followed by antiseptic measures. The woman was evidently suffering from spontaneous decomposition of the lochia, coagulated blood and perhaps bits of decidua. In other words, she was poisoned by her own secretions.

REPORT ON STATE MEDICINE.

J. G. EBERLE, M. D.
FORT SMITH.

The Chairman of the Committee on State Medicine comes before you to-day humbly begging pardon from the members of the Society for this presentation of a very imperfect and unsatisfactory report on the important subject of State Medicine, and humbly begging pardon from the other members of the committee for not having consulted them in the matter. The excuse offered is an unexpected absence from home and the State at the period marked out for the performance of that duty, and a lack of time for its accomplishment afterwards.

The State during the past year has escaped all epidemics of grave character. The amount of sickness prevalent in most portions of the State has been less than usual. The winter has been markedly mild. The usual pulmonary affections of an acute character have been less common. It is observed that as the State is filled up by immigration, the lands cultivated, the forests felled and lakes and sloughs and ponds drained, diseases due to malaria become less common, while *per contra*, typhoid and other similar forms of disease increase. The natural causes of disease are removed while artificial ones due to ignorance and the common carelessness of mankind fill their place.

At this period of rapid growth of the State a general knowledge of sanitary science would be productive of beneficial results beyond our most sanguine expectations. How to furnish this knowledge to the people is the important consideration. Pleas for the enactment of laws for the protection of the health, aye, and lives of the people are made at every session of our State Legislature, but always in vain. The State Board of Health is passed without notice except when an epidemic absolutely threatens to invade the State. The law regulating the practice of medicine was granted grudgingly, and petitions of this Society for its amendment whereby its greatest faults might be overcome are ungraciously refused. A law regulating the practice of pharmacy which would prevent the sale and dispensing of drugs by incompetent men, which in the hands of the ignorant or unskilled may do deadly mischief is refused, notwithstanding the State Pharmaceutical Association has petitioned for it and the State Medical Society has indorsed it. It is neccessary that we take this burden upon ourselves as individuals and that each one in his own sphere shall labor to spread a knowledge of sanitary science among the people, and as they become better informed upon this, to them very important subject, they will in due time elect such men to their legislatures as will give the necessary governmental aid.

There is much information we can impart in our daily routine of practice, the necessity for a proper construction of dwellings, school-houses, etc., for ventilation and drainage, the dangers of impure drinking water, improper food and clothing, the necessity for the vaccination of children, which, in most communities has been totally neglected since the war, etc. All these things and many more such we can reach ourselves.

When appointed on local Boards of Health we should devote greater attention to the unsanitary condition of our cities and towns throughout the whole year and not wait for the advent of an epidemic. We should insist upon the passage of laws by our municipalities, providing for a record of births and deaths, for the compilation of statistics, and should observe those laws ourselves. In these ways this great cause can be advanced. In the larger cities some progress has already been made. Little Rock and Fort Smith, the leading cities of the State, are to be congratulated upon the possession of a complete system of sewers, that of the former in use for several years, that of the latter, a very perfect one, just approaching completion. These cities are also supplied with wholesome water by their water work companies. Other cities as they grow in size and wealth will rapidly follow their example, and as each year passes by we will observe the beneficial effects of the knowledge we have been quietly and unostentatiously spreading among our fellow-men.

REPORT ON NECROLOGY.

MEMOIR OF JOHN T. BOOTH, M. D.,

BY ALBERT DUNLAP, M. D.

FORT SMITH.

Dr. Jno. T. Booth was born in Fort Smith, Ark., December 27th, 1847, and died March 9th, 1889, being at the time of his death in his forty-second year. He was the son of Samuel and Martha McKinney Booth, who came to this place from Kentucky some years before the birth of their son. Dr. Booth received the rudiments of an education during his earlier boyhood, in such schools as this place then afforded. When the Cane Hill college was re-established soon after the late war at Boonesborough, Arkansas, Dr. Booth entered that institution and remained there until he acquired a very thorough education. In 1871 he began the study of medicine under the tutorship of Dr. W. B. Welch, and graduated at the Kentucky School of Medicine, session, 1874-5. After graduating he returned to his native town and practiced his profession here for over two years. He next located at Enterprise, in this county, where he soon built up a large and lucrative practice, enjoying without exception, the confidence and esteem of those among whom he labored. He continued to practice at Enterprise, constantly growing in the confidence and affections of the people who enjoyed the benefit of his superior skill, until that fell destroyer, consumption, which had for some time previously been making inroads on his strength and vitality, brought his useful life to a close. His death has left a void in the field of his labors that cannot be easily filled. As a practitioner of medicine Dr. Booth had few superiors of his age. Ardently devoted to his profession, he kept well up in its literature, while his clear, logical mind made him a most accurate diagnostician. He became a member of the Sebastian County Medical Society in 1875, (was elected president in January 1880, serving one year—J. D. S.), and continued his connections with it to the time of his death. He was also a member of the State Medical Society.

As a citizen, Dr. Booth was upright and honest in all his dealings, always ready to recognize the golden rule and make that his rule of action. He leaves a widow and three children to mourn his loss to whom my heart-felt sympathy is extended with a guarantee of that of every other member of this Society.

In Memoriam.

ABBEY, S. F. R., Helena 1875
ALEXANDER, E. H., Pine Bluff 1884
ALEXANDER, O., Rocky Comfort 1880
BENNETT, J. E., Fort Smith 1884
BLACKBURN, E. M., Ozark 1880
BLOCHER, C. M., Texarkana 1879
BOOTH, J. T., Enterprise 1889
BUFORD, J. S., Marianna 1877
BYRD, D. E 1887
CARRIGAN, A. N. 1887
CATHEY, W. L., Alma 1880
COWLING, J. S., Mineral Springs 1885
CRENSHAW, H. F., Marianna 1877
CRUTE, H. P., Chicot 1876
DALE, E. T., Texarkana 1881
DAVIDSON, BENJAMIN H., Evening Shade 1877
DUNGAN, D. H., Little Rock 1883
DUVAL, E. R., Fort Smith 1885
EASLEY, E. T., Little Rock 1878
GRAY, E. W., Newport 1877
HARRELL, W. C., Indian Bay 1877
HAZELWOOD, JAMES T., Clarendon 1876
HAWKINS, W. H 1887
HOBSON, A. W., Hope 1882
HOBSON, O. A., Hot Springs 1885
HOLCOMBE, J. M., Pine Biuff 1880
HOLMES, R. R., Melford 1879
HOPTON, J. G. S., Pendleton 1879
JONES, S. W., Pine Bluff 1879
JONES, J. W., Fayetteville 1886
MCALPINE, W. W., Helena 1885
MCDOWELL, DRAKE, Hot Springs 1882
MORGAN, JAMES A., St. Charles 1875
PANGBURN, D., Judsonia 1880
PERNOT, H. C., Van Buren 1880
POWE, CHARLES T., Alma 1877
PULLIAM, A. J., Patterson Bluff 1885
REESE, R. M., Cincinnati 1877
RICE, F. H., Helena 1875
STINSON, J. A., Jacksonport 1881
TERRY, W. L., Little Rock 1876
THOMPSON, J. B., Eldorado 1885
TREZEVANT, R. B., Des Arc 1878
UPSHAW, WILLIAM T., LaGrange 1878
WARD, W. T., Des Arc 1876
WATKINS, W. H., Newport 1878
WITHERSPOON, J. P., Little Rock 1883

MEMBERS

OF THE

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Benton	Bills, A. R.	Maysville	Kansas City University.
Benton	Clegg, J. T	Siloam Springs	University of Nashville.
Benton	Coffelt, Theo. A	Pea Ridge	Missouri Medical College.
Benton	Floyd, J. R	Bloomfield	Memphis Hospital Medical College.
Benton	Hurley, C. E	Bentonville	Medical Department A. I. U.
Benton	Hurley, T. W	Bentonville	University Louisiana.
Benton	Rice, T. M	Brightwater	Missouri Medical College.
Boone	Green, S. P	Bellefonte	Missouri Medical College.
Boone	Kirbey, L	Harrison	St. Louis Medical College.
Boone	Routh, H. L	Harrison	Vanderbilt University.
Boone	Vance, A. J	Harrison	Vanderbilt University.
Carroll	Jordan, J. D	Eureka Springs	University Louisville.
Carroll	Reese, W. A	Eureka Springs	Missouri Medical College.
Clark	Cargile, C. H	Okolona	Jefferson Medical College.
Clark	Dale, J. R	Arkadelphia	Jefferson Medical College.
Clark	Moore, A. B	Gurdon	Vanderbilt University.
Clark	Wallis, J. C	Arkadelphia	Jefferson Medical College.
Clark	Wallis, R. S	Arkadelphia	Jefferson Medical College.
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Cleveland	Cates, S. R	Kingsland	Kansas City Medical College.
Cleveland	Stanfield, C. A	Toledo	Memphis Medical College.
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Columbia	Hawkins, J. T	Mt. Holly	University Louisville.
Conway	Cullen, C	Plummerville	Kentucky School of Medicine.
Conway	Sayle, W. A. C	Morrilton	Kentucky School of Medicine.
Conway	White, G. B	Morrilton	University Tennessee.
Craighead	Kitchens, J. H	Jonesboro	University Maryland
Crawford	Alvis, R. H	Alma	University of Nashville.
Crawford	Bourland, O. M	Van Buren	University of Nashville.
Crawford	Dibrell, J. A., Sr	Van Buren	University Pennsylvania.
Crawford	White, L. C	Van Buren	Maine Medical School.
Dallas	Lantorn, Z. J	Willow	Medical Department A. I. U.
Desha	Woolford, W. S	Arkansas City	Medical Department A. I. U.
Drew	Stanley, W. T	Tillar	Louisville Medical College.
Faulkner	Brown, G. S	Conway	Bellevue Hospital Medical College.
Franklin	Amis, W. A	Ozark	Bellevue Hospital Medical College.
Franklin	Blackburn, J. F	Ozark	Vanderbilt University.
Franklin	Turner, H. H	Ozark	Jefferson Medical College.
Franklin	Weaver, E. R	Vesta	Missouri Medical College.
Garland	Fordyce, J. A	Hot Springs	Chicago Medical College.
Garland	Franklin, S. W	Hot Springs	University New York City.
Garland	Gaines, J. H	Hot Springs	University Louisiana.
Garland	Jelks, J. T	Hot Springs	University Nashville.
Garland	Keller, J. M	Hot Springs	University Louisville.
Garland	Leslie, J. H	Hot Springs	University of Louisville.
Hempstead	B'Shers, S. L	Fultou	University Louisville.
Hempstead	Booker, T. J	Columbus	University St. Louis.
Hempstead	Boyce, M. C	Hope	University Louisiania.
Hempstead	Carrigan, S. M	Washington	Missouri Medical College.
Hempstead	Hart, W. P	Washington	Jefferson Medical College.
Hempstead	King, S	Hope	University of Louisville.
Hempstead	McCaskill, A	Wallaceburg	Mobile Medidial College.
Hempstead	Stamps, J. A	Wallaceburg	University Louisville.
Hempstead	Wilson, R. M	Columbus	Missouri Medical College.
Hot Spring	Reamy, S	Malvern	University Louisville.
Hot Spring	Robertson, J. J	Malvern	Atlanta Medical College.
Howard	Barner, W. B	Nashville	College of Phy's and Surg's N. Y.
Howard	Corn, J. S	Center Point	Vanderbilt University.

COUNTY.	NAME.	POSTOFFICE.	ALMA MATER.
Howard	Draper, T. J.	Mineral Springs,	University Louisville.
Independence	Case, J. W.	Batesville.	Jefferson Medical College.
Independence	Dorr, R. C.	Charlotte	Missouri Medical College.
Independence	Ewing, D. C.	Batesville.	University Louisville.
Independence	Hardister, H. N.	Victor	Vanderbilt University.
Independence	Hathcock, A. N.	Hickory Valley	Missouri Medical College.
Independence	Hodges, R. H.	Moorfield	University Louisville.
Independence	Hodges, T. B.	Sulphur Rock	University Louisville.
Ind-pendence	Jeffrey, Finis	Desha	University Louisville.
Independence	Kennerly, J. H.	Newark	University Louisville.
Independence	Lawrence, W. B.	Batesville.	Jefferson Medical College.
Independence	Lawrence, W. M.	Batesville	Missouri Medical College.
Independence	Logan, H. G.	Dota	Atlanta Medical College.
Independence	Vaughan, S. L.	Sulphur Rock	University Louisville.
Independence	Weaver, M. C.	Jamestown	Louisville Medical College.
Izard.	Baxter, E. A.	Melbourne	University Louisville.
Izard.	Watkins, Jno. M.	La Crosse	University Nashville.
Izard.	Woods, T. J.	La Crosse	Kentucky School of Medicine.
Jefferson	Alexander, H. L.	Pine Bluff	New Orleans School of Medicine.
Jefferson.	Banks, A. R.	Pine Bluff	University of Maryland.
Jefferson.	Carroll, D. C.	Pine Bluff	Medical Department A. I. U.
Jefferson.	Cox, W. S.	Pine Bluff	Missouri Medical College.
Jefferson	Goree, J. L.	Pine Bluff	Louisville Medical College.
Jefferson.	Holmes, L.	Pine Bluff	University Pennsylvania.
Jefferson	Loving, A. B.	Pine Bluff	University Louisville.
Jefferson	McGaughey, E.	Corner Stone	University Louisville.
Jefferson	Mills, D. S.	Pine Bluff	Memphis Medical College 1851.
Jefferson	Orto, Z.	Pine Bluff	Miami Medical College.
Jefferson	Scales, J. W.	Pine Bluff	Vanderbilt University.
Jefferson	Seymore, G. W.	Pine Bluff	Missouri Medical College.
Jefferson	Simmons, J. F.	Pine Bluff	Jefferson Medical College.
Jefferson	Stanley, J. P.	Pine Bluff	University of Pennsylvania.
Jefferson	Taylor, S. M.	Pine Bluff	Jefferson Medical College.
Jefferson	Tobin, C. P.	Pine Bluff	Jefferson Medical College.
Jefferson	Thompson, R. C.	Pine Bluff	Bellevue Hospital Medical College.
Jefferson	Troupe, A. W.	Pine Bluff	Rush Medical College.
Jefferson	Walt, D. C.	Wabbaseka	Memphis Hospital Medical College.
Jefferson.	Withers, J. W.	Altheimer	Med. Dep. University New York.
Johnson	McKennon, A. M.	Clarksville	University Louisiana.
Johnson	Mitchell, J. P.	Clarksville	Jefferson Medical College.
Johnson	Montgomery, W. C.	Spadra	University Nashville.
Johnson	Robinson, C. E.	Clarksville	Jefferson Medical College.
Johnson	Stevenson, Thos.	Berlin	Medical Department A. I. U.
Johnson	West, R. B.	Hartman	Vanderbilt University.
Johnson	Zachary, B. S.	London	Medical Department A. I. U.
Lafayette.	Bright, D. W.	Lewisville	Kentucky School of Medicine.
Lawrence.	Coffman, J. H.	Black Rock	University of Louisville.
Lawrence	Hatcher, W. J.	Imboden	University Nashville.
Lawrence	Henderson, A. G.	Imboden	Missouri Medical College.
Lawrence.	Minor, J. C.	Walnut Ridge	University Virginia.
Lawrence	Rector, N.	Smithville	Nashville College Med. and Surgery.
Lawrence	Watkins, W. J.	Walnut Ridge	Cincinnati College Med. and Surgery.
Lee.	Bradford, W. S.	Haynes	Vanderbilt University.
Lee.	Drake, D. S.	Marianna.	Bellevue Hospital Medical College.
Lee.	Hayes, J. W.	Marianna.	Washington University.
Lee,	McClendon, J. W.	Haynes	University Nashville.
Lee.	West, P. C.	LaGrange	University Louisville.
Lincoln	Pendleton, P. H.	Douglass.	Louisville Medical College.
Lincoln	Taylor, C. M.	South Bend	Transylvania University.
Little River.	Sager, L. A.	Rocky Comfort	Bellevue Hospital Medical College.
Logan	Merritt, T. D.	Magazine.	University Louisiana.
Logan	Shibley, J. S.	Paris	University Nashville.
Logan	Sipe, J. N.	Booneville	Vanderbilt University.
Logan	Smith, J. J.	Chismville	Memphis Medical College.
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Lonoke	Ross, R. N.	Lonoke	University Nashville.
Miller	Spearman, W. C.	Texarkana.	University Louisville.
Mississippi	McGavock, F. G.	McGavock	University Nashville.
Mississippi	Prewitt, R. C.	Osceola.	Kentucky School of Medicine.
Monroe	Bates, T. H.	Brinkley.	University Nashville.
Ouachita.	Dawson, E. L.	Buena Vista	University Louisiana.
Ouachita.	Henry, J. T.	Millville	University Nashville.
Ouachita.	Hudson, G. W.	Camden	University Maryland.
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Phillips	Horner, A. A.	Helena	University Pennsylvania.

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Phillips	McAlpine, Geo	Helena	University Maryland.
Phillips	Vineyard, J. H	Vineyard	Jefferson Medical College.
Pike	Hancock, N. C	New Hope.	University Nashville.
Pike	Thomason, N. T	Murfreesboro	Medical Department A. I. U.
Polk	Baker, W. R.	Dallas	Cincinnati Medical College.
Pope	Drummond, R. M.	Russellville	Vanderbilt University.
Pope	Hill, W. H	Russellville	University Louisville.
Pope	Howell, Andrew R.	Russellville	Jefferson Medical College.
Pope	Kirkscey, C. L.	Dover	Atlanta Medical College.
Pope	Ruff, D. P.	Dover	Nashville Medical College.
Prairie	Hipolite, W. W	Devall's Bluff	University Michigan.
Prairie.	Owen, W. P	Devall's Bluff	College Phys. and Surgeons.
Pulaski	Bentley, E. (U.S.A.)	Little Rock	N. Y. College Phys. and Surgeons.
Pulaski	Bond, J. B	Little Rock	St. Louis Medical College.
Pulaski	Breysacher, A. L.	Little Rock	Missouri Medical College.
Pulaski	Christian, R. B	Little Rock	University Virginia.
Pulaski	Dibrell, E. R	Little Rock	University Pennsylvania.
Pulaski	Dibrell, J. A. Jr.	Little Rock	University Pennsylvania.
Pulaski	Gibson, L. P.	Little Rock	Jefferson Medical College.
Pulaski	Gray, D. A	Little Rock	University Pennsylvania.
Pulaski	Hooper, P. O	Little Rock	Jefferson Medical College.
Pulaski	Jennings, R. G	Little Rock	Maine Medical College.
Pulaski	Lenow, J. H	Little Rock	Jefferson Medical College.
Pulaski	Lindsey, R. W.	Little Rock	University Nashville.
Pulaski	McAlmont, J. J.	Little Rock	Cleveland, Ohio.
Pulaski	Meek, E.	Argenta	Kansas City College Phys. and Surg.
Pulaski	Murrell, T. E	Little Rock	University Maryland.
Pulaski	Nash, C. E	Little Rock	N. Y. College Phys. and Surg.
Pulaski	Prather, D. J.	Little Rock	Louisville Medical College.
Pulaski	Scott, A. H.	Little Rock	Jefferson Medical College.
Pulaski	Seaver, J. A	Little Rock	Medical Department A. I. U.
Pulaski	Southall, J. H.	Little Rock	University Louisiana.
Pulaski	Stark, L. R	Little Rock	New Orleans School of Medicine.
Pulaski	Thompson, Wm	Little Rock	University Louisville.
Pulaski	Watkins, C.	Little Rock	Jefferson Medical College.
Pulaski	Weny, N	Little Rock	St. Louis College Phys. and Surg.
Saline	Adams, J. W	Benton	University Louisiana.
Scott	Sanford, A. A.	Waldron	Vanderbilt University.
Sebastian	Bailey, W. W.	Fort Smith.	University Michigan.
Sebastian	Blakemore, J. L.	Greenwood.	Vanderbilt University.
Sebastian	Brewster, A. L	Huntington	Vanderbilt University.
Sebastian	Dunlap, A	Fort Smith	Transylvania University.
Sebastian	Eberle, J. G	Fort Smith.	Kentucky School of Medicine.
Sebastian	Evans, W. P	Excelsior	Medical Department A. I. U.
Sebastian	Hatchett, B.	Fort Smith.	Vanderbilt University.
Sebastian	Gardner, D. M	Fort Smith.	Missouri Medical College.
Sebastian	Hynes, Geo. F.	Fort Smith.	Cleveland Medical College.
Sebastian	Johnson, D. T.	Fort Smith.	Bellevue Hospital Medical College.
Sebastian	Johnson, F. W	Fort Smith.	Missouri Medical College.
Sebastian	Kelleam, J. M	Fort Smith.	University Louisville.
Sebastian	King. R. B	Fort Smith.	University Louisiana.
Sebastian	Main, J. H. T.	Fort Smith.	Starling Medical College.
Sebastian	McConnell, J. W.	Huntington	Medical Department A. I. U.
Sebastian	McGinty, John	Hackett	Kentucky School of Medicine.
Sebastian	McReynolds, C	Fort Smith.	Kentucky School of Medicine.
Sebastian	Phillips, T. E	Fort Smith.	Memphis Hospital Medical College.
Sebastian	Saunders, L. L.	Fort Smith.	Medical Department University Ga.
Sebastian	Southard, J. D	Fort Smith.	University Louisville.
St. Francis.	Cummings, J. B	Forrest City.	Jefferson Medical College.
St. Francis.	Matthews, W. J	Forrest City.	University Nashville.
St. Francis.	Van Patten, P	Forrest City.	Iowa University.
Union	Goodwin, W. H	Eldorado.	University Louisiana.
Union	McHenry, M. A.	Hillsboro	University Louisiana.
Washington.	Blackburn, T. W.	Boonesboro	Medical Department A. I. U.
Washington.	Christian, D	Elm Spring	St. Louis Medical College.
Washington.	McCormick, E. G.	Prairie Grove	Missouri Medical College.
Washington.	Pollard, T. J	Fayetteville	Transylvania School of Medicine.
Washington.	Webster, J. W.	Cincinnati	Missouri Medical College.
Washington.	Welch, W. B.	Fayetteville	University Nashville.
Washington.	Yates, W. N.	Cincinnati	Missouri Medical College.
White	Jelks, J. M	Searcy.	University Nashville.
White	Jordan, A. C.	Beebe	Vanderbilt University.

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